A TREATISE
ON
BENEFIT
BUILDING SOCIETIES
BY
ARTHUR SCRATCHLEY M.A.

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A TREATISE

ON

BENEFIT

BUILDING SOCIETIES

CONTAINING

REMARKS UPON THE ERRONEOUS TENDENCY OF MANY OF THE SOCIETIES AT PRESENT IN EXISTENCE;

AND AN

INQUIRY INTO THE TRUE CAUSES OF THEIR DEFECTIVE OPERATION, WITH A VIEW TO THEIR AMENDMENT; OR, THE FORMATION OF NEW SOCIETIES UPON CORRECT PRINCIPLES.

BY

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PREFACE.

THE following pages treat of a question of much importance at the present time, when great anxiety relative to the welfare of the industrious classes is so generally expressed. While Benefit Building Societies, whose influence is calculated materially to modify the condition of those classes, are multiplying in all directions, and the valuable results, which might be obtained through their agency, are daily becoming more manifest, it is of urgent necessity that definite principles should be laid down to serve as a guide for their correct formation, and as the basis of some consistency in their subsequent operations.

A minute inquiry into the various systems of these associations has confirmed an opinion, suggested by previous experience, that among other defects one stands prominent as the fatal obstacle in the way of their success, arising from the almost universal condition, by which the existence of a Building Society is limited to a specified number of years. I have consequently been led to consider the manner, in which such an institution may be constructed on a permanent basis, so as to be free, as far as possible, from the imperfections inherent in the terminating system, and with this object I have prepared a set of Rules with directions for the practical management of a permanent Building Society.

The subject of this work has presented difficulties of a complicated character, from the various phases under which the peculiar defects of individual societies appear. The task has, however, been lightened by the reflection, that, although it cannot be expected that this effort, to place them upon a more rational and secure footing, will meet with the success of wholly obviating errors for the future, yet a most important end will at once be obtained, if the attention of the Patrons, Trustees, Directors and other officers of many of these institutions, is awakened to the sense of the grave moral responsibility incurred by them in allowing their names to be connected with schemes, which, while professing to benefit, do but cause injury to those, for whose good they were designed,—to individuals not of equal information and position with themselves, but from a class remarkable for the simple faith with which they believe in any statement sanctioned by the countenance of their superiors.

In pursuing the necessary investigations into the Rules, Prospectuses, Tables, and Annual Reports of many hundreds of the more important societies, I have derived much valuable assistance from Mr. C. J. Spencer (late Scholar of King's College, London,) Actuary.

Western Life Assurance Office,
3, Parliament Street, Westminster,
May 1849.

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A TREATISE ON BENEFIT BUILDING SOCIETIES.

CHAPTER I.

INTRODUCTORY REMARKS.

Among the remarkable features of the present age, Benefit Building Societies occupy a very leading position. They have increased in such numbers during the last few years, not only in the metropolis, but in every part of the kingdom, that it has become a matter interesting to all to understand correctly their object and the true principles on which they ought to be founded. This information is the more desirable, as large sums of money are already subscribed to these associations, and they seem likely in a few years to engage in their operations a considerable portion of the investing capital of this country. But although they have received extensive support from the industrious classes, it is painful to find that very few of the existing societies are guided by principles, which can either in theory or practice justify the hope of their terminating with the advantageous results promised as an inducement to parties to become members.

That the principles of Building Societies should be erroneous, and yet that their popularity should be so widely extended, may be ascribed to two causes. As yet, but few persons of sound mathematical knowledge or experience in calculations have turned their attention to the subject, and the societies hitherto formed have been deprived of that

basis of science and just reasoning, which alone can ensure the prosperity of this or any similar kind of speculation. On the other hand the members of these associations have in general been led to expect from them an unreasonable degree of benefit—a false impression which has been shared even by persons of the more educated orders.

A Building Society, when properly constituted, is a species of joint stock company, the members of which subscribe periodically, and in proportion to the number of shares they hold, different sums into one common fund, which thus becomes large enough to be advantageously employed by being lent out at interest to such of the members as desire advances; and the interest, as soon as it is received, making fresh capital, is lent out again and again, so as to be continually reproductive. Large sums may be raised in this manner; for, to take an example, if 1000 shares were subscribed for at 10*s.* per month per share, the amount in one year would be £6000, which, month by month as received, might be advanced to any members who should wish to become borrowers. The payments of Borrowers are so calculated as to enable them to repay by equal monthly or less frequent instalments, within a specified period, the principal of the sum borrowed and whatever interest may be due upon it throughout the duration of the loan. The other members who have not borrowed, and who are generally called Investers, receive at the end of a given number of years a large sum, which is equivalent to the amount of their subscriptions with compound interest accumulated upon them.

The idea of a society on this principle, correctly formed and afterwards properly managed, is of the most admirable kind. For on the one hand, it holds out inducements to industrious individuals to put by periodically from their incomes small or large sums, which are invested for them by the society, and, at the end of a certain time, are

repaid to them in the shape of a large accumulation, without their having themselves the trouble of seeking for suitable investments; while on the other hand the money subscribed, being advanced to some of the members, enables them to purchase houses, or similar property, and to repay the loan by small periodical instalments, extended over a number of years.

As regards the purchasing of house property, Building Societies must be deemed peculiarly beneficial. We have only to consider how large a portion of a man's income is usually absorbed by the payment of rent, especially among the lower classes, who pay for their tenancy much more heavily than their richer neighbours, considering the relative value of the houses which they occupy. It has been justly said by a writer in the Building Societies' Record, that "Every one knows something of the ultimate cost of hiring furniture for their houses or lodgings; they know that it is much more advantageous to the hirer of furniture to buy the articles outright than to pay continually for their use; and therefore most prudent people in the middle and humble walk of life, make it a rule to purchase their own furniture and other articles of domestic comfort and convenience. They know that the price paid for long hiring is at least equal to the original price of the article hired. And yet how many thousands of persons there are in the Metropolis only, who deem it an unwise extravagance not to purchase their articles of household furniture, and yet are quite content to hire their homes. What numbers occupy hired houses or apartments, to deposit their unhired furniture in."

It is however only by means of these societies that persons, who are not possessed of capital and who merely receive their incomes periodically, can ever become possessors of a house; and this they are enabled to do

only from the practical fact, that the annual repayments required by a society upon a loan do not much exceed the rent of a house, which could be purchased with the sum borrowed; so that a man living 10 or 14 years in a house, instead of paying his rent to his landlord and thus losing so much money for ever, pays it with a small addition to a Building Society for a limited number of years, and in consideration of his consent to this arrangement, the society advances him at once the money requisite for the purchase of the property, which thus in the stipulated time, when the loan has been repaid with interest, becomes entirely his own, the money advanced being in the meantime secured by a mortgage on the house.

Such is the simple outline of the plan pursued in the practice of Building Societies, and if efficient means could be provided for securing correctness in their principles of calculation and a fair and honourable way of carrying out their object, these institutions must undoubtedly be considered as an excellent application of the system of mutual association. When several individuals possessing various amounts of talent and capital, unite for the purpose of carrying out the same design, they are usually enabled to accomplish that, which would be beyond the reach of a single person. The efforts of a body of men in pursuit of a good object are generally successful, whether they endeavour to attain for themselves definite and tangible results by the operation of great commercial enterprises, or whether they combine with the provident desire to avert, as far as possible, the pecuniary loss to which the death of any individual among their number would expose the members of his family. As an application of the former species of association though in a limited degree and among humbler classes, Benefit Building Societies have proved a remarkable illustration

of the great advantages conferred by the working of this principle, but they are yet so obscured by defects and errors, as to require the application of many improvements both in their system and practice, to prevent them from sinking into disrepute.

The object of this work will be fully and impartially, without particularizing by name the plans of any existing association, to point out and classify the errors into which too many of them have fallen, and to suggest such improvements as may lead to the more correct formation and management of future societies. At the same time it is to be hoped, that the attention of the directors and managers of many that are already formed may be awakened, and measures taken for remedying the evil by such judicious alterations in their rules and rates of subscription, as may be considered likely to improve their present condition.

The first building society which can be traced, was founded in 1815 under the auspices of the Earl of Selkirk. It was a village club at Kircudbright in Scotland. Other institutions of a similar kind were afterwards established in the same kingdom under the title of 'Menages,' and the system was soon adopted in England by societies formed in the neighbourhood of Manchester and Liverpool, and other parts of the North. After the year 1830 they increased so rapidly, that on the 14th of July 1836, a special act (6 and 7 William IV cap. 32) was passed for their encouragement and protection, in the provisions of which were embodied certain clauses applicable to their conduct, which were included in the statutes relating to Friendly Societies, passed in the reigns of George III and George IV. As a proof of their numbers it may be stated that up to the 31st December 1848, there had been registered in the united kingdom upwards of 2,000

societies, of which in England alone 160 were added during the past year—a similar increase having taken place in Scotland and Ireland. Of these societies, there is evidence to shew that from 800 to 900 are yet in existence, the total income of which is calculated at not less than £2,300,000 a year. In fact there are two or three of them whose annual incomes are between £50,000 and £60,000 each.

The Act of Parliament just mentioned was passed in 1836, under the designation of "An Act for the regulation of Benefit Building Societies," for the express purpose of encouraging the formation of such institutions, by granting them various privileges, among which is the power of charging a higher rate of interest than was formerly allowed; while, to protect their subsequent operations, it was enacted that each society should be governed by certain rules, to be approved of, and so certified, by a barrister appointed by Government.

When this act was passed, it seems to have been overlooked that societies of this kind would be exposed to more serious danger than ever when thus encouraged by a special act, if the rates of subscription were to be left unguided by any advice or check furnished by competent authority. This circumstance has been the cause of considerable mischief, inasmuch as by far the greater number of the existing building societies are founded on incorrect principles of payment, and many evince on the part of their originators much ignorance, even of the simplest operations of compound interest. In some instances the statements put forth are very extravagant, and it would not be easy to account for the confidence with which they are often received, were it not that a species of fascination for this kind of investment seems to possess the minds of the industrious classes; and even

persons of superior position, who would be expected to have more information, have united in giving their sanction to the error, for it has been found that no building society has ever been started, however ridiculous its pretensions, which has not speedily succeeded in drawing together a number of shareholders. The tone of moderation often assumed in the prospectuses appears sometimes to proceed from an honest conviction on the part of their authors, and as such is but too well fitted to gain the confidence of single-minded persons; it is not unusual to find some impossible project represented as "no speculation—no scheme by which uncertain results are to be obtained, but a sober, well-tried, and successful mode of associating together a number of persons for the benefit of the whole," and then, although it is deemed unnecessary to give the grounds on which their promises are founded, they shelter themselves beneath the mantle of legislative sanction, and adduce the Act of Parliament as being of "itself sufficient evidence of the favourable opinion entertained by the Government of that society." It cannot be wondered at that statements advanced in such language as this, and supported by so high an authority, too frequently gain the confidence of the public.

It is thus that the legitimate object of building societies has been perverted. In order to render them popular and attractive, the projectors, in many cases, have not contented themselves with promising to the poor but industrious man the privilege of becoming the possessor of a house by easy means, but have unhappily infused into him an eager desire to obtain a disproportionate amount of gain in his purchase. Hence it comes to pass, that instead of his feeling a lively satisfaction, that he is able to get possession of his house by the payment to a building society of very little more than the amount of his rent during a reasonable number

of years, he is taught to believe, that the important advantage he covets can be obtained for him by means and within a period of time, which common sense ought to have suggested as impossible.

Whilst this attraction is held out to the borrowers, a similar sacrifice of principle is made to the investers, or non-borrowers, who are promised large accumulations at the end of a limited number of years, in return for disproportionately small monthly subscriptions. The same prospectus will frequently contain these incompatible statements, and yet the subscribers believe with implicit and blind faith in the virtues of the scheme, into the practicability of which they do not trouble themselves to inquire. It was lately remarked with great propriety in a weekly paper, that "It should be clearly understood by the working classes, that in saving a little money they are providing against misfortune and the exigencies of life, and by investing those savings they merely increase the means for that purpose, and not for one moment should they labour under the delusion that, by joining this or that building society, their fortunes would be made without trouble, for such hopes cannot be realised, and they give rise to ideas, which, in leading them beyond their sphere, incapacitate them for the exertion necessary to maintain them in it, and induce misery and disappointment in the end."

In addition to the discouraging effect produced by the errors introduced into so many existing societies, there are other obstacles to their complete success, that arise from some imperfections in the Act of Parliament relating to them, the discussion of which would be too long in this place. Moreover, from these societies having been up to a recent period chiefly dependent on the lower ranks of life, their resources have been too limited to render their operations sufficiently important to attract the attention,

or secure the assistance, of persons of information or talent. In spite however of these objections or difficulties, it may confidently be affirmed, that their introduction into this country has been accompanied by very happy results in promoting habits of economy and prudence among the poorer classes. Much good has also been obtained by their enabling a large number of persons to become possessors of houses, which, on the conclusion of their payments, they occupy free of rent, and can transmit as a little property to their family. This pecuniary interest serves at once to bind them to the soil and to promote a feeling of love and veneration for the national institutions of their country.

Hitherto the money accumulated by these associations has been devoted solely to the purpose of enabling members to become purchasers of houses or similar property, yet as far as the principle is concerned, there is no reason why it should not be applied to other objects, provided the investment obtained be equally safe. An example of this kind will be given further on (Chapter 8), where will be found suggestions for the plan of a Building Society, whose shares, by the adaptation of a combination of Life and Fidelity Assurance, can be made payable at the end of a definite number of years, or sooner in case of death; while, at the same time, they may serve as security for the fidelity of the possessor, when holding a situation of trust.

We shall conclude these general remarks with a statement of some of the leading examples of the various uses to which Building Societies are at present applicable.

1st.—*Provisions for Old Age* may be secured, payable at the end of any number of years, by a person joining the society as an invester.

2nd.—Houses can be *purchased*, instead of being

hired, by an inconsiderable increase of annual outlay.

3rd.—Heads of large commercial establishments and ministers of parishes may, by affording encouragement advice and protection in the formation of such societies, secure more benefit for their dependents and the humbler members of their charge, than can be obtained by any effort however extensive of private charity.

4th.—Leaseholders, such as farmers or others, desirous of providing for the *fine* on renewal of their leases (if for terms certain), can do so by joining a society as investers, and subscribing for such number of shares (to be received in full at the required time) as will meet the amount desired. This obviously would be to many an easy mode of providing for what is now often felt to be a difficult and onerous charge.

5th.—The Premiums or fees for placing boys as apprentices or articled clerks to solicitors, engineers, &c., can be obtained in a similar way.

6th.—*Marriage and Family Endowments* of all kinds can be secured.

7th.—Benevolent Institutions and Religious Societies can borrow funds for the erection of churches, alms houses, schools, chapels, &c., or for the immediate paying off of any debts from such institutions, and the amount borrowed can subsequently be repaid by charitable contributions periodically collected.

CHAPTER II.

ON THE NATURE OF THE OPERATIONS OF COMPOUND INTEREST.

Previously to describing the theoretical construction of a building society, a few remarks will be necessary respecting the principles of compound interest, on which the rates of subscription are supposed to be based, so that the general reader may be enabled to judge of the manner in which the advantages to be derived from these institutions are attainable, and appreciate the influence, which the practical contingencies examined in the succeeding sections may be expected to have on the results produced by a mere theoretical investigation of the subject.

It would be irrelevant to the object of this work, to enter into the doctrine of interest further than may be necessary to elucidate and explain the nature of building societies; we shall therefore confine ourselves to a few general outlines, and refer the studious reader, for more extended information, to treatises specially devoted to the science; we have treated the subject analytically in the Appendix, and in this chapter have merely collected some of the practical results.

INTEREST OF MONEY.

1.—It is the custom in all civilized countries, that one person, borrowing a sum of money from another, should

pay him periodically for its use a certain consideration under the name of Interest. This consideration varies in amount according to the nature of the security given for the loan, the state of public monetary affairs and occasionally other circumstances. In order to simplify commercial transactions and establish a standard of measurement for them, annual rates of interest have been formed, varying from £1 upwards for every £100 borrowed. This interest, although specified nominally as an annual rate, is payable at such regular periods as may be agreed upon, either by annual, half-yearly, or more frequent equal instalments, each periodical payment being, however, always proportional to the annual rate.

The *highest* rate of interest that a lender may legally demand or receive for the use of his money, usually varies with the commercial and political position of the country in which the transaction takes place, and until lately in England was fixed at five per cent. per annum, although special exceptions were made for the investments of building societies and similar institutions. It does not seem clear for what reason the rate of five per cent. was selected as the limit allowed, and it has been a question giving rise to a variety of opinions, whether the existence of any such limit has not been the occasion of more injury to commercial affairs, amidst the fluctuations of public confidence, than it has produced good by the restraint imposed on usurious practices.

SIMPLE AND COMPOUND INTEREST.

2.—In treating of the advantage derived by investing money, it is important to distinguish between Simple and Compound interest.

If the sums received by the lender from time to time on account of interest are placed by him in similar invest-

ments, as so much new capital, it is obvious that he not only realises interest on the sum originally lent, but also on *its interest*, thus increasing materially the advantage produced by his money, for which he is consequently said to be receiving *compound* interest.

The same would be the result if the borrower, instead of actually paying the interest when it becomes due, were allowed to increase his debt thereby, with the understanding that the whole should be paid off in one sum at the end of the time for which the loan was made; the borrower undertaking to place his creditor in the same pecuniary position as he would have been in, had the instalments of interest been actually paid periodically and themselves reinvested.

If, however, instead of supposing the interest, which should have been paid from time to time to be reproductive, the borrower were only bound to pay the sum of the periodic instalments on the original amount lent without anything additional for their non-payment at the epoch when they became due,—then he is said to be paying only *simple* interest; for example:

Suppose £100 were borrowed for five years at the annual rate of three per cent. simple interest, which is to be paid at the end of the fifth year with the loan, then the amount payable at that time would be £100 and five times £3, or altogether £115.

3.—The way *compound interest* accumulates will be seen by the following example:—Suppose A lends B £1000, for fourteen years at five per cent. interest, payable annually and at the *end* of each year. At the end of the first year A receives from B £50 for interest, which he reinvests by a further loan to B, or to some other party. The amount altogether thus lent is then £1050. At the end

of the second year A receives £52. 10*s.*, as interest at five per cent., which he again lends out immediately, making his total investment £1102. 10*s.* At the end of the third year the interest received upon this loan of £1102. 10*s.* is £55. 2*s.* 6*d.*, which, being also lent out, causes the total sum invested to be £1157. 12*s.* 6*d.*, on which at the end of the fourth year A again receives interest, and so on, until the end of the period, the advantage derived from these repetitions of investment increasing every year.

In this example we have seen that the lender in three years clears £157. 12*s.* 6*d.* in the shape of interest on the £1000 originally lent, which is £7. 12*s.* 6*d.* more than he would have obtained by *simple interest*. In the same way if we refer to Table 3, which is formed on the above considerations, it is found that at the end of fourteen years the £1000 would amount to £1979. 18*s.* of which £979. 18*s.* arises from compound interest, being £279. 18*s.* more than at simple interest.

4.—As in the practice of the societies which form the subject of this work, interest is always supposed to be compound and not simple, we will confine ourselves to remarks on the various results appertaining to the realization of the former, premising that whenever the rate of interest is mentioned, it always signifies the nominal rate per annum.

5.—Respecting tables of interest and the preceding example, it should be observed, that the calculations are only true supposing the money which is received yearly, or otherwise, for interest, to be immediately transferred to some investment producing the same rate of interest, and in as frequent instalments as the original investment did. The loss of a day falsifies the calculations, and neglect of this most important consideration is the cause of the frequent

discrepancies which are seen between valuations made on theory, and those consistent with the circumstances of actual practice.

6.—In commercial transactions, interest is more frequently due half-yearly than yearly, and sometimes quarterly or monthly, which materially increases the amount that a sum of money will accumulate to at the end of a given time, since the instalments of interest are then susceptible of more frequent investments themselves, as so much new capital bearing interest. One instance will prove this:—Suppose £1000 were lent for one year at five per cent. rate of interest, payable *half-yearly*. At the end of six months the lender receives half a year's interest, or £25. This if invested immediately will itself produce in six months 12*s.* 6*d.* interest, or the lender will at the end of the year by his investment of £1000 have made 50*l.* 12*s.* 6*d.* instead of the £50, he would have received had the interest been only payable yearly.

The greater advantage derived by the receipt of interest in equal instalments, more frequent than once a year, is shewn in Table 4, where are given the actual interests realised at the end of a year corresponding to various nominal rates according as it is paid half-yearly, quarterly, or monthly, or even at shorter intervals of time. When interest is supposed due at the end of every moment of time, it is said to be *momentaneous*, and the hypothesis, though not commercially practicable, yet gives rise to several curious investigations, which are discussed at some length in the Appendix. See also Tables 5 and 6.

7.—In cases where the *amount* of a sum is to be determined for a period of years beyond the limit of the tables which are used, the results given in them may yet serve for the purpose.

Example: suppose the amount of £100 is desired in thirty years at five per cent. compound yearly interest. Ascertain the amount in twenty-five years by Table 6. and then by rule of three determine what the sum produced at the end of twenty-five years will accumulate to in five years more.

Thus in twenty-five years at five per cent. £100 amounts to 338*l.* 12*s.* 8*d.* Again in five years £100 would amount to 127*l.* 12*s.* 6*d.*, therefore in five years 338*l.* 12*s.* 8*d.* will amount to 432*l.* 3*s.* 10*d.*—or the amount of £100 in thirty years is 432*l.* 3*s.* 10*d.*

Similarly for intermediate periods.

ON DISCOUNT AND PRESENT VALUE.

8.—If a person be entitled to a certain amount at the *end* of a given time, and wish in its stead to take its equivalent value at present, the sum which he ought to receive is termed the *present value* of the amount in question, and the difference between the two is called *discount.* The discount will be greater or less according as the sum due is discounted at simple or compound interest. In ordinary mercantile transactions, to avoid the necessity for tables, it is usual to charge a discount, equal to the simple interest on the whole debt, for the time that exists between the present and the day on which it is due. Thus if the amount be £100, and there remain two years before it is due, the discount at five per cent. rate of interest will be £10: for eighteen months it will be £7 10*s.* 0*d.*, and similarly for other periods. This is sufficiently accurate for the practical purposes of commercial affairs, and in fact is the only way in which the necessity for separate calculations on every occasion can be obviated; but for debts extending over a large number of years, such a method of comput-

ing the discount would give a result which would be much too large. When money is correctly discounted at a certain rate of compound interest, the *present value* is such a sum as will, by being improved, if invested now at the same rate, accumulate at the end of the given time to the amount due.

Discount therefore being the inverse of interest, we have this fact, corresponding to the one mentioned page 15, that:—The present value of a sum due at the end of a given time, is less in proportion to the greater frequency of the periods at which the interest is supposed to be due.

Example: The present value of £1,000, due in five years and discounted at the rate of 4 per cent. compound yearly interest, is 821*l.* 18*s.* 6*d.* But if the interest be calculated as due half-yearly it is 820*l.* 7*s.* 0*d.*, and similarly it is less if calculated as due quarterly or monthly.

Tables, which give the amounts to which a present sum will accumulate, will serve inversely to give by rule of three the present value of a sum due at the end of a specified number of years.

For if £1 amount at 3 per cent. yearly interest to 1*l.* 3*s.* 2*d.* in five years (see Table 3), then £1 is the present value of 1*l.* 3*s.* 2*d.* due five years hence. Therefore, by rule of three, 17*s.* 3*d.* is the present value of £1 due five years hence.

ON ANNUITIES OR PERIODIC PAYMENTS.

9.—Having explained the operations by which a *single* sum changes its value under the influence of interest in the course of time, we proceed to show, what is the result when several sums are taken together into consideration.

ANNUITY is a term applied to the periodic payment of money at fixed intervals. It is said to be a yearly, half-yearly, quarterly, or monthly annuity, according as the periodic payments are made once a year, or in two half-yearly, four quarterly, or twelve monthly equal portions. Annuities are also termed *certain* if payable for a definite number of years, but *contingent*, if their duration depends on adventitious circumstances, such as the existence of one or more lives, in which case they are called Life Annuities. We will confine our attention to the first kind, in which there are only two fundamental questions requiring special examination, from which every problem relating to annuities can be deduced, premising that, unless the contrary is stated, the annuities are supposed payable at the end of each year.

First:—What sum an annuity would *amount* to at the end of the time of its duration, if each periodic payment were to be invested and to produce compound interest.

Secondly:—What *present sum* paid down is equivalent to an annuity payable for a given number of years.

These values will vary with the rate of interest supposed in the calculation, and also with the frequency of the intervals at which the periodic payments of the annuity, or instalments of interest thereon, are supposed due. It is obvious however that, first:—The *amount* of an annuity, at the end of the time during which it is to continue, is the sum of the accumulations of each periodic payment improved at compound interest, from the date at which each was paid or due, up to the time of the expiration of the annuity. And secondly:—The *present value* of an annuity is equal to the sum of the present values of each of the periodic payments, discounted at compound interest; each payment being separately discounted for the respec-

tive distance of time between the present and the date at which it is due.

10.—Since an annuity is strictly equivalent to its present value, the party purchasing and the other selling being as far as the mathematical considerations go in equal positions, it follows that the amount of an annuity is exactly equal to the amount to which the present value of the annuity would accumulate, if itself invested and improved at the same interest until the end of the given number of years.

Hence when accurately calculated at the rate of interest agreed upon, the amount and the present value of the annuity are each exactly equivalent to the annuity itself, and are thus equally applicable to the affairs of life, the one being frequently exchanged for the other. Thus a debtor may clear off a given sum now due, by paying to his creditor either an equivalent annuity for a certain number of years, or its amount at the end of that time, and a land-holder, whose estate is charged with an annuity, can compound for it by giving a present sum in cash.

As an example—referring to Tables 9 and 10, we see that at 7 per cent. rate of *yearly* interest, the present value of 8*l.* 8*s.* 0*d.*, paid at the end of each year for ten years, is nearly £59, and also that the amount of 8*l.* 8*s.* 0*d.* a year at the end of 10 years is 116*l.* 1*s.* 2*d.*; moreover Table 3 shews that the single sum £59 improved at 7 per cent. compound interest for 10 years gives the same amount, proving that the three are equivalent to each other: or in other words supposing two men each to undertake to pay 8*l.* 8*s.* 0*d.* at the end of each year to a society for ten years, and that one desired to receive in return the present value of his ten years' payments, while the other determined to wait for his share until the end of the time, they

would both be fairly treated, in respect of their subscriptions to the society, if the one received £59 at once, and the other 116*l.* 1*s.* 2*d.* at the termination of the annual payments.

The same reasoning applies to annuities of greater or smaller amounts for different periods of duration, and a society receiving, as in the above example, annuities from its members and paying to some their *present value* and to others their *ultimate amount*, is on the general principle of a Building Society.

11.—The whole theory of annuities cannot be explained without some analytical investigations which will be found in the Appendix. For practice, Tables 9, 10, and 11 may be used, in which are given, for various interests, the amount and present value of an annuity of £1, payable at the *end* of each year, and the annuity which £1 will purchase. These tables however will serve for annuities greater than £1, and they may be adapted when the annuity is paid at the *beginning* instead of the *end* of each year.

12.—If the annuity be supposed payable half-yearly or quarterly, or *monthly as in Building Societies,* some modification is necessary in the tables, the nature of which is explained in the Appendix. But it is clear that:—A *smaller* annuity ought to be paid during a specified number of years, in consideration of a given present sum, debt, or purchase-money, in proportion to the *greater* frequency of the periods at which the equal portions of the annuity are to be paid. Similarly:—The *amount* of an annuity, at the end of a given time, increases with the *frequency* of the intervals at which the instalments are paid.

13.—It will be observed that:—For a given annuity, the *amount* at the end of a given number of years will increase with the *rate of interest* at which the money is supposed invested. And inversely:—The *larger* the accumulation promised in return for the subscription of an annuity for a stated time, the *higher* will the rate of interest be, at which it must be invested. Hence the first point to be thought of, when an accumulation is promised for an annuity paid, is:—Can the necessary rate of interest be obtained? Can every instalment of the annuity be immediately and continually invested throughout the whole time at the rate required?

Thus for example:—£6 a-year will amount to 82*l.* 18*s.* nearly in ten years, at 7 per cent. rate of interest. But in order that £6 a-year may amount to £120, the rate of interest required is $14\frac{1}{2}$ per cent.

Again, that £6 a-year may amount to £140, or £3 a-year to £70, in the same time, the rate of interest required is nearly 18 per cent.

14.—The *number of years* during which a given annuity is to be paid in return for a given present sum, debt, or purchase-money, increases with the *rate of interest* supposed to be paid.—Inversely: The advantage obtained by a borrower, who pays a certain annuity in return for a loan, diminishes as the number of years increases. Example: If a borrower pay 8*l.* 8*s.* 0*d.* a year during 10 years for a loan of £59, he is paying at the rate of 7 per cent. compound *yearly* interest, but if the time be increased to 13 years, the rate of interest will be about $10\frac{1}{2}$ per cent.

ON THE DOUBLING OF MONEY.

15.—When a sum of money increases to double its

value by the accumulation of compound interest, the analytical investigations assume a peculiar form, from which the following theorems have been deduced as bearing on the system of many Building Societies.

1.—For all rates of interest not exceeding 10 per cent.:—*The number of years, in which a single sum will become double in amount by the accumulation of compound interest, may be found by dividing* 70 *by the rate of interest per cent.*, and taking that whole number which is *nearest* to the quotient obtained.

The accuracy of this theorem may be judged of by Table 7, but the property is valuable as furnishing a simple rule and one easily remembered. Thus:

If the rate of interest be 2 per cent,	then the number of years will be	$\frac{70}{2}$	nearly,	= 35 years
„ $2\frac{1}{2}$	„	„	$\frac{70}{2\frac{1}{2}}$	„	= 28
„ 3	„	„	$\frac{70}{3}$	„	$= 23\frac{1}{3}$
„ $3\frac{1}{2}$	„	„	$\frac{70}{3\frac{1}{2}}$	„	= 20
„ 4	„	„	$\frac{70}{4}$	„	$= 17\frac{1}{2}$
„ $4\frac{1}{2}$	„	„	$\frac{70}{4\frac{1}{2}}$	„	$= 15\frac{5}{9}$
„ 5	„	„	$\frac{70}{5}$	„	= 14
„ 6	„	„	$\frac{70}{6}$	„	$= 11\frac{4}{6}$
„ 7	„	„	$\frac{70}{7}$	„	= 10
„ 8	„	„	$\frac{70}{8}$	„	$= 8\frac{6}{8}$ or 9 nearly
„ 9	„	„	$\frac{70}{9}$	„	$= 7\frac{7}{9}$ or 8 nearly
„ 10	„	„	$\frac{70}{10}$	„	= 7

which agree with the whole numbers given by the table.

When the rate of interest is higher than 10 per cent., a larger dividend than 70 must be taken.

2.—*If a sum of money be borrowed for such a time, that if unpaid it would become doubled by the accumulation of compound interest, then the debtor can liquidate his debt with interest in that time, by an annuity equal to twice one year's interest on the sum borrowed* :—If the time be a certain number of years and days, the last payment of the debtor will be a fractional portion of the year's annuity, proportionate to the fractional number of days.

Thus, if £60 be borrowed for 14 years 76 days, (which is the time in which money will double at yearly 5 per cent.), then the debt can be repaid, including principal and interest, by an annuity for that time after the rate of £6 a year, since £3 is the interest on £60 at 5 per cent.

Again: If £60 be borrowed for 10 years 90 days (the time of doubling at 7 per cent.), then a yearly annuity of 8*l*. 8*s*. for that time will repay principal and interest—4*l*. 4*s*. being one year's interest on £60 at 7 per cent.

If the above annuities were paid in monthly instalments of 10*s*. and 14*s*. the debts would be repaid in very nearly fourteen years and ten years respectively.

16.—From theorems 1 and 2, we have:—

3.—The *interest*, at which money will double in a *given* number of years, is nearly equal to 70 divided by the number of years.

4.—If two equal sums be invested for the same time, the one at simple, the other at compound interest, the former will increase 70 per cent. in the time in which the latter will double; or, whatever be the rate, the advantage in the time of doubling will be 30 per cent. in favour of compound interest.

5.—The *amount* of £1, a year in the time in which a single sum would double, is equal to £100 divided by the rate of interest per cent.

Thus, at 5 per cent. money will double in 14 years 76 days, and £1 a year for that time will amount to £100 divided by five, or £20, which agrees with Table 9.

17.—The results obtained by means of the above theorems become more accurate, when the instalments of interest or annuity are due more often than once a year, and, in the case of *monthly* payments, they are found to differ but very little from the real values. The exact degree of approximation afforded by the theorems is examined in the Appendix, together with the general extension of which they admit to the case of money increasing to several times its original value.

CHAPTER III.

ON BENEFIT BUILDING SOCIETIES AS AT PRESENT CONSTITUTED.

SECTION I.

The theoretical principles of a Terminating Society.

Building Societies are generally founded with the same object, but carried out with various modifications. They are now divided into two distinct classes: the one *terminating*, the other *permanent*. A terminating society is one which it is intended to close at the end of a certain period, when all the shares of the members have realized their full amount. In a permanent society it is merely the membership of a shareholder, that terminates at the end of a fixed number of years, when he receives the full value of his shares, the society itself continuing for ever. Whichever system be adopted, the object of a Building Society is still the same, namely, as we have stated in Chapter 1, to enable individuals to associate together and unite their subscriptions from time to time in one common fund, some for the simple purpose of placing a portion of their incomes in an advantageous investment, others with the view of borrowing money, by which they may purchase houses or other similar property.

But in order that one man may borrow, there must be others who lend. To induce a person of limited means to lay by periodically a portion of his income merely as an investing member, some strong incentive must be held out,

and the only one that has been found successful, is to offer him a high rate of interest for the use of his money. The legislature, being aware of the force of this consideration and of the importance of removing any obstacle at that time existing, passed the Benefit Building Society Act of 1836, in which the following clause was specially introduced:

"And be it enacted, That it shall and may be lawful to "and for any such society to have and receive from any "member or members thereof any sum or sums of money, "by way of bonus on any share or shares, for the privilege "of receiving the same in advance prior to the same being "realized, and also any interest for the share or shares so "received, or any part thereof, without being subject or "liable on account thereof, to any of the forfeitures or "penalties enforced by any Act or Acts of Parliament "relating to usury." So that, in other words, the society might charge its borrowing members, under the name of bonus, any rate of interest on a loan which it might deem advisable.

In this chapter we shall examine the character and deficiencies of Terminating societies, and in the next enter on the question of the merits of their successors on the Permanent principle.

The majority of the terminating building societies announce at the time of their formation, that their shares are a fixed sum, usually £120, to be realized at the expiration of a given number of years, by which time it is expected the association will terminate with that result. The number of years is generally 10 or 14, although some societies exist whose expected duration is 11 or 13 years, and some in which the amount of the shares is £50 or £100. The subscriptions of the members are a few shillings a month per share, varying with the number of years

calculated as the probable duration of the society, but not allowed by the statute to exceed 20 shillings per share, and the Investing or non-borrowing members are promised the amount of their shares at its close. The subscriptions are received at monthly meetings, and with as little delay as practicable are lent to those members, who wish to become Borrowers and to obtain a loan in the shape of a present advance on each share they hold or take up, in lieu of the amount which they would otherwise receive at the end. The sum advanced per share of course depends on the number of years, that remain between the time of borrowing and the date at which the society is expected to terminate.

To explain this we will take an example, but it must first be remarked, that in most of the associations at present existing in the United Kingdom, which have any principle of theory for their guide, one of two rates of interest has generally been adopted as the basis of the calculations, their expected duration being consequently different. These rates are 5 or 7 per cent. per annum, but the interest, though taken at a nominal annual rate, is supposed to be realized at the end of each month, instead of at the end of each year. In practice many difficulties, to which attention is drawn further on, oppose the actual realization of interest monthly, yet, for the purpose of an example, the question may be treated theoretically as if no such impediments were in existence.

Let the case be that of a 14 years' terminating society formed on the basis of a 5 per cent. rate of interest and consisting of shares of £120 each, on which every member pays 10*s.* at the beginning of each month during 14 years. This sum is assumed because such a monthly annuity would, at 5 per cent. rate of interest *supposed realised monthly* and continually invested and reinvested, accumulate

to £120 at the end of nearly 14 years; hence £120 is the amount that a non-borrowing member would be entitled to receive at the close of the society.

On the other hand it is known, that £60 cash, invested at 5 per cent. rate of compound *monthly* interest, will accumulate to £120 in nearly 14 years. If then a member should wish to discount one share and take its present value at the beginning of the society, he would be entitled to receive £60, in consideration of his subsequent monthly payment of 10*s.*, or £6 a year, for 14 years. Similarly should he desire to borrow £300, or 5 times 60, he would have to make payments on 5 shares, amounting to £30 a year.

As the society progresses in its existence, the number of remaining months, over which a borrower's payments can extend, diminishes; so that the amount of advance per share, which a member would be entitled to receive, if he wished to borrow at a later period of the society than the beginning, would depend on the date of his first becoming a subscriber. If he had only just entered before receiving a loan, the amount of advance per share would merely be the discounted present value of his future payments, but if he had been a subscriber for some months previously, then in addition to the allowance for his future subscriptions, he would also be entitled to a sum arising from his past payments.

Thus, for example: In the 14 years' society in question, a member whose subscriptions are 10*s.* a month, or £6 a year for each £120 share, if he wished to borrow in the first month of the 7th year and had been a subscriber from the beginning, would receive 42*l.* 1*s.* 1*d.* on account of his past payments during six years, and 38*l.* 19*s.* 8*d.* in consideration of his future subscriptions, making altogether 81*l.* 0*s.* 9*d.* We quote one of the societies on this plan,

but this can easily be proved correct by means of a monthly compound interest table.

But if the borrower had only just become a member at the beginning of the seventh year, and did not pay up any arrears or back subscriptions, he would merely be entitled to 38*l.* 19*s.* 8*d.* as an advance, in consideration of the payment of £6 a year to be made by him during the remaining 8 years; and, under such circumstances, it is seen by rule of three that to obtain a loan of 81*l.* 0*s.* 9*d.*, he would have to pay 12*l.* 9*s.* 6*d.* a year during the 8 years. So that in fact, the *nearer* a member, at the time of his first joining, or taking up the required number of new shares, and then borrowing, is to the epoch at which the society is expected to close, the *larger* will be his payments in return for a given loan. As a second instance, it would be found that although a member, who borrowed £300 at the commencement, would merely pay £30 for 14 years; yet if he took up the shares at the beginning of the 9th year and obtained the same loan, without paying up any arrear-subscriptions, then he would have to pay 59*l.* 18*s.* 0*d.* for the remaining 6 years. Such a high rate of repayment becomes, however, inconvenient to members of limited means, who may wish to borrow money for the purchase of house property in the later periods of the existence of a terminating building society, and the difficulty increases more and more, as the remaining number of years diminishes.

The preceding is an example at 5 per cent. Societies formed on the basis of 7 per cent. rate of interest are expected to last only 10 years, and on this supposition there exist a great many. The amount of the shares to be realized, at the end of such a period is usually, as before, £120, for which the members pay 14*s.* a month for 10 years. This rate of payment is adopted, because such a monthly annuity would amount to £120 at the end of nearly

10 years, supposing each monthly payment *immediately*, as it is received, invested at 7 per cent. compound interest, calculated also as realized *monthly*.

Again: since £60, if similarly invested at 7 per cent., would, with its accumulations from compound interest, amount to £120 at the end of nearly 10 years, it is obvious that a member effecting a loan on a share at the beginning, and receiving £60 as its present value, would be in an equitable position with regard to a non-borrowing member, who waited for the full value of his share or £120, at the termination of the society.

Other associations exist founded on other rates of interest, as 6 or 8 per cent., and of different expected periods of duration. The principle of calculation, however, is the same, and the same remarks apply to all whatever be the rate adopted. The intention of each is to give to the investers the amount of their shares in full at the close of the number of years representing the probable duration of the society, and throughout its existence to invest the funds, from time to time as collected, in the shape of discounted advances to any of the members, who may wish to borrow. The amount of advance per share being supposed proportionate—*First: to the number of years or months that the borrower has already been a subscriber; and Secondly: to the unexpired time, which remains between the epoch, at which he obtains the loan, and the expected date of the termination of the association.*

Such is the system of the superior class of terminating Building Societies, but it must not be supposed, that all or even the greater number of the existing associations are founded on such accurate principles of calculation. This unfortunately is not the case. By far the majority are based on rates of subscription fundamentally unsound, and, in their subsequent dealings both with the investers and

borrowers, proceed on assumptions which cannot be justified by theoretical or practical reasoning. Of this the next section will contain a few instances, which prevail in several hundred of the societies now in existence, and are selected not as being by any means the most extravagant of the number, but simply from the extent to which they are adopted.

The defects in most cases are so numerous and varied, and in each individual society so interwoven one with another, that it will be necessary for the better separation of ideas, and in order to enable the reader to understand fully the details into which we are about to enter, that we should endeavour to introduce some classification among them. The chief heads under which they may be resumed are as follows:—

1.—Inaccuracy in theory: such as erroneous rates of subscription, &c.

2.—Practical causes, which nullify the results obtained from accurate theory: such as loss of interest, the expenses of management, &c.

3.—The *pecuniary loss* inseparable from the condition of termination.

4.—The great *inconvenience* caused to individual members by the terminating system: such as the difficulty of withdrawing at the time when a member may desire it, or of effecting the redemption of a mortgage on equitable terms, &c.

5.—Losses through mismanagement: viz., From too frequent inattention to the sufficiency or soundness of security accepted for investment; or, from the consequences of inaccuracy in balance sheets, &c. &c.

Some of these defects will be explained by themselves in the next section; others, to avoid the necessity for sub-

sequent repetition, will be considered by way of contrast in the chapters, which treat of the advantages of the permanent principle and the practical working of building societies.

Section 2.

Societies on erroneous principles.

First instance:—Societies exist proposing to last 10 years only, and sometimes for a less period, the shares of which are £120, and the payments of the investers, 10*s.* a month: that is to say, for a subscription of £6 a year during 10 years, or a total payment of £60, a member is promised £120 at the end of that time.

Now in order that the payment of £6 a year may accumulate with compound interest to £120, in the course of 10 years, a rate equivalent to 14½ per cent. yearly interest must be realised, and unless the subscriptions be continually invested and re-invested at this rate, the promised results are impossible; of this the reader may satisfy himself by referring to the Appendix.

The borrower's repayments however do not bring into the society a higher rate of interest than 7 or 8 per cent., and in some cases much less; for the same prospectuses state, that if a member desire an advance in the first year, he will receive £60 on each share, (sometimes only £55,) in return for which he will have to pay 14*s.* a month, or 8*l.* 8*s.* 0*d.* a year, for the 10 years, the extra 4*s.* being usually charged under the name of redemption fee. A reference to Article 15 in the preceding chapter, or to a

compound *monthly* interest table, will shew that the actual interest produced by these repayments, which include principal and interest, is between 7 and 8 per cent. per annum. The advances also, made in the second and subsequent years of the existence of the association, are in the same proportion,—consequently the subscriptions of the members are incorrectly calculated to the large amount of nearly 7 per cent. annual rate of interest, even although the borrowers pay so high a rate as 8 per cent. Hence it follows, *that the promised results cannot be realised.*

The above assumes that the monthly receipts are also re-invested monthly. Such in reality is not the case. Indeed even if a society of this kind were to experience no pecuniary loss from any of the causes which will be examined further on, yet the result would practically only be as follows:—By Table 9, a yearly annuity of £6 invested continuously at 7 per cent. will accumulate to 82*l.* 18*s.* 0*d.* in 10 years; leaving a deficit of 37*l.* 2*s.* 0*d.* per unadvanced share, or nearly one-third of the promised amount, at the epoch of the expected termination of the society.

Again, even supposing the borrowers should unwittingly consent to pay 10 per cent. interest for their loans, there would yet be a deficiency of 24*l.* 7*s.* 6*d.*, since the amount of £6. a year in 10 years at 10 per cent. is only 95*l.* 12*s.* 6*d.*

This remarkable instance of inaccuracy of rates is the more worthy of notice, as it prevails with various other less important errors in several hundred of the existing building societies, and thus involves the pecuniary welfare of a large number of shareholders. There can be no doubt, however, that it entirely arises from ignorance, for the same prospectuses usually declare, that the annual rate of interest which is charged from the borrowers does *not exceed 4 per cent.* This last statement may probably be suggested by some misconception founded on the circumstance

of the borrowers paying 4*s.* a month per share more than the investers.

The *Second instance* is of a more complicated character, and is introduced with considerable pretension by its advocates as an improved plan of a Building Society.

The scheme professes to guarantee that the society shall positively *not* last more than 10 years; that non-borrowing members, by paying 5*s.* a month, or £3 a year, for 10 years, will be entitled to and shall receive £70 at the end of that time, which will be £40 more than the total amount of the 10 years' subscriptions; also, that a borrower shall receive as an advance on each share, if there be *no* competitors with him for the same loan, the total of the 10 years' subscription or £30, in return for which he also shall pay 5*s.* a month or £3 a year for 10 years, or in other words, they give us to understand, that a member can borrow £30, and repay the whole, including principal "and interest," by ten payments of £3 extended over 10 years.

If, however, there are several applicants for advances, then the prospectuses state—

"That the funds of the society shall be put up to "open competition; and the same shall be awarded to "those members who shall offer the *highest premium* or "interest for the use thereof. By this plan the great evils, "loss and uncertainty, attendant upon the rotation and "balloting systems, are avoided.

"That the premiums or interest shall be the only sum "payable by the borrowers for the use of the money that "shall be advanced to them.

"That the premiums bid shall not be deducted from the "sum to be advanced, but may be paid by equal monthly "instalments, spread over the remainder of the ten years.

" This will be a very great accommodation to the borrowers, " and is, in the opinion of the Directors, a great improve- " ment upon the old systems, under which the premiums " are deducted from the money to be advanced.

" In order that the members may be guided as to the " premiums they may safely bid for advances of money, the " following table is given, showing the amount of interest, " to which the premiums from £3 to £15 per share will be " equal for the ten years:—namely,

Premiums, if given during the first year.

£	s.	d.		Interest per cent. per ann. £	s.	d.
3	0	0	Premium for an advance of £30, spread over the 10 years, will be found equal to	1	0	0
4	10	0	ditto	1	10	0
6	0	0	ditto	2	0	0
7	10	0	ditto	2	10	0
9	0	0	ditto	3	0	0
10	10	0	ditto	3	10	0
12	0	0	ditto	4	0	0
13	10	0	ditto	4	10	0
15	0	0	ditto	5	0	0

" While such great benefits are secured to the borrowers, " it will be seen that those members, who shall allow their " subscriptions to remain as investments, will receive, at the " expiration of the 10 years *certain*, a very large profit, " amounting, it is calculated, (from the facilities and encou- " ragement afforded to borrowers, and the certainty of this " society being always able to lend out its funds at a moderate " rate of interest), to nearly £40 per share, or £70 for " each £30 subscribed in the course of the 10 years: " thus shewing, that persons wishing to invest their small " savings, and parents desirous of securing a future pro-

" vision for themselves or their families, will be able to do " so in this society with a vast deal more advantage and " solid benefit, than they can by investing their money in " life assurances, or depositing the same in savings' banks, " which do not in any case allow more than 3 per cent. " per annum interest, or *not above one-tenth of the estimated* " *interest or profit to be gained by investing money in this* " *society*."

" This plan clearly proves that, although the investers " (that is to say those members who do not borrow money " of the society) will probably more than *double* the " capital they may invest in this society in the 10 years; " the borrowers will gain *considerably more* in the same " time."

We have quoted so much of the prospectus, because the system is one, that contains a variety of complicated errors common unfortunately to a considerable number of societies.

It has been said, that the investers are promised £70, in return for 10 annual payments of £3.—This cannot be true, unless the subscriptions are invested after the rate of 18 per cent. yearly interest, continuously realized during the 10 years, by the constant investment and re-investment of the society's funds, in loans to borrowers. *(See Appendix).*

Now the members who borrow, pay more or less, according as there is competition or not for advances.

If there be no competition, a borrower gives no premium, and consequently, in obtaining a loan of £30 per share, has only to pay £3 a year for 10 years, or in other words, he has the loan *without paying any interest for it.*

If there be competition, the *highest* premium he can pay on each £30 share is £15, spread over 10 years; he therefore obtains an advance of £30, for which he has to

pay annually £3 subscription, and £1. 10*s*. 0*d*. instalment on his premium during 10 years, which is equivalent to paying nearly 8 per cent. rate of interest for the loan. See Table 10.

So that in the most favourable case the society would experience annually a deficiency of 10 *per cent. rate of interest.*

If the premium or discount which a borrower allows be less than £15, the repayments made by him are smaller and consequently the rate of interest obtained on the average is less than 8 per cent., so that while on the one hand this improved plan undertakes to guarantee to the investers a profit arising from the accumulations of their subscriptions at 18 per cent. compound interest, yet on the other it is lending out the money at rates, which never can exceed 8 per cent., and in most cases would be considerably less.

We pass over the other incorrect estimates advanced by the prospectus, respecting the rates of interest which are said to correspond to the various amounts of premium mentioned, as we conceive enough has been stated to prove the utter unsoundness of the plan.

Many other societies exist conducted upon various schemes which are equally fallacious, and up to the time of the publication of the present work, announcements such as the following are daily appearing in the public prints:—

" From the peculiar advantages offered by this society, " the investing members will reap above 20 per cent. " interest for the use of their subscriptions," &c., &c.

And further on, the same advertisements assert—

" That the borrowers will scarcely pay at the rate of 2 " per cent. interest for their loans."

Again we find—

" It is calculated that those members who allow their

" subscriptions to accumulate at compound interest till the " close of this society, will receive about 25 per cent. " annual interest for the same, &c., &c.; and from 80 to " 100 per cent. profit will be obtained by those members, " who purchase property with the money advanced to " them by the society."

Such statements require no comment.

It is not necessary to extend our inquiry into the defects of other societies, as it is to be hoped that increasing knowledge on this subject will prevent their formation for the future. Our object in this place is rather to point out the general practical objections to the system of terminating societies altogether, than to rectify misconceptions which arise from ignorance. It is however worthy of notice, that the tendency of most new societies is to diminish the rate of contribution paid by the members, without making any corresponding reduction in the value of each share promised at their termination. Formerly a more secure principle was adopted, and the monthly subscriptions required on each share were much larger. For instance, in most of the old Liverpool and Manchester Societies, the shares were fixed at £150, and the monthly payments at 20*s.* per share. Hence many succeeded in terminating successfully. The modern associations however diminish the monthly subscriptions one half, and yet take only £30 off the amount of the share to be realised. In general the statements put forth at the present day do not depend upon principles deduced from sound knowledge or careful reasoning, but seem rather to be the offspring of crude guesses thrown out at random. The originators of the multitudinous variety of new and improved plans, promising such large benefits simultaneously to each of the two classes of members, who alone constitute these societies, might with as much probability of success, devise a

game of cards, at which all who played should rise up winners. They do not reflect, that although a fair and reasonable benefit may be secured to the investor by lending on equitable terms to the borrower, yet any extra profit beyond this, which is promised to the one, can only be obtained at the expense of the other.

Section 3.

The leading practical objections to Building Societies as at present constituted.

Among the objections which apply to the majority of existing societies, there is one which is peculiar to those founded on the terminating principle:—

In consequence of its being intended to close the society in a given number of years, or as soon after as practicable, the opportunity for investment soon ceases, as the members are unwilling to borrow in the later years of its existence, when the period over which a loan can extend has become small, and the corresponding rates of repayment much increased.

It is found by experience, and it is indeed a fact, which common sense would suggest, that it is almost impossible to find members who will care to borrow, when the first five or six years of any society's expected duration have elapsed. The monthly repayments upon a loan, which is to be only for a short period, become too large to suit the means of the industrious classes, who are usually the shareholders of a building society; and this difficulty increases to an insurmountable degree in the last years of the proposed term of its existence. For although a man, who borrowed

£300 for 14 years in order to purchase a house, might contrive with comparative ease to pay £30 a year in addition to the taxes and ground-rent; yet he might be unable to pay 59*l.* 18*s.* 0*d.* a year if the loan were merely for 6 years, or 85*l.* 12*s.* 6*d.* a year if it were only for 4 years, and similarly for other periods.

In ten-years societies the difficulty is still greater, as the terms for loans are much shorter. This circumstance creates therefore a cessation of investment, and consequently a loss of interest, which altogether nullifies the calculations upon the supposed truth of which the society was founded; for it has been shewn in the general remarks upon compound interest contained in Chapter 2, that even supposing the rates of a society accurately calculated, they can only prove correct on the supposition that there is never any loss of interest on its funds, or in fact that all monies received from subscribers are continuously invested until the end. Hence this objection, which becomes greater and greater with the progress of the society, stands prominent as one fatal obstacle to its success.

Some societies founded lately have attempted to obviate the difficulty by a plan, which in some measure would be successful in preventing this loss of interest, were it not that it entails another equally important objection relative to the expenses of the association. The plan alluded to consists in dividing by lot any balance of money existing at a meeting where there are no borrowers, among those members who have not yet received advances on their shares, so as to compel them at once to withdraw from the society, as far as such shares are concerned; the amount paid on this forced withdrawal of each share, being regulated by its value at the time of withdrawal, according to the rules by which all the members are severally and collectively governed.

Such a measure, though necessary, adds to the general difficulties in the principle of termination, since it tends month by month, in a rate rapidly increasing, to diminish the number of the members of the association; for in each successive month of the last years of its expected existence, the number of members, who desire to borrow, becomes less, and in the absence of applications for advances, the number of investers, or non-borrowers, who must be paid off, increases. Thus the society, which might otherwise have succeeded, rapidly sinks in importance, and its expenses, or *any deficiency of funds* which may afterwards be discovered, instead of being spread over a large body, have to be borne by the few, who are unlucky enough to remain to the end.

The following objections for consideration, although common to many societies, whether terminating or permanent, are nevertheless increased and aggravated when the institution is of a transitory character.

First.—*The interest is usually calculated as likely to be realized monthly, whereas such is practically not the case.*

It is not possible but that, from the very beginning of any society's existence, some portion of its funds will at various periods remain unemployed for a time. Sometimes this takes place, because the balance in hand is not large enough to meet the purpose of any borrower, particularly in the first year or two, when the subscribers are too few in numbers to raise quickly enough an adequate sum. Sometimes, on the contrary, when the amount required by the borrowers whose names are entered has been advanced, there remains a sum which is not applied for.

Now it has been stated that the interest is generally calculated as produced monthly, which would require that there should never be even a day lost in investing the whole of the subscriptions collected at each meeting, and

since this is practically impossible, it may be laid down as an axiom, that no society can be secure, whose rates of subscription are formed on such a principle. It is not remembered, that although it is desirable to receive the subscriptions monthly, yet it is not safe to act on the hypothesis of their being immediately reinvested, or of monthly interest being actually obtained, as such a mode of calculation reduces the rate of repayment, which it is necessary to charge to a borrower for a given loan. It is one thing to receive the repayments monthly, and another to assume in the calculations, that they will be as frequently reproductive of interest. It would be safer, at all events, if the interest were supposed due quarterly, but in order to remove any possible contingency from this source, we recommend that, in all calculations, which form the basis of the subscriptions, the interest should be assumed as only realized annually and at the *end* of each year. The difference between this assumption and the actual result would be in favour of the society.

Whilst we are upon this subject, it is important to direct attention to another circumstance, which affects the accumulations expected to be realized from interest. In many societies there exists a practice of borrowing money from their bankers, for the temporary purpose of accommodating members sooner with advances. This is often done at the commencement of the association and occasionally later in the course of its existence. If the sum charged by the bankers for the accommodation do not exceed the interest, which forms the basis of the society, and as such is expected to be paid by the borrowing members, then the transaction is safe and highly advantageous. But if the bankers charge 8 or $8\frac{1}{2}$ per cent. as at times has been the case, while the society only receives 5 or 7 per cent. from its borrowers, then must it experience a loss. Those societies, in which

the advance-repayments are founded on a 5 per cent. rate of interest, ought to pay particular attention to this consideration. If money be borrowed from extraneous sources, and it is undoubtedly often necessary to do so, in order to carry on and facilitate operations, let care be taken that those members, who are benefited by the accommodation, pay the extra charge.

Secondly.—*The loss from the expenses of management.*

Whether the amount of monthly subscriptions from the members of a building society be theoretically sufficient or not, yet the promised results cannot be realized, in consequence of the annual loss caused by the expenses which are not adequately provided for.

In Section 1 we have seen that, in most societies founded on principles theoretically accurate, the present value of each share at the time of an advance, or its amount at the *end* of the specified number of years, are respectively equivalent to the accumulation arising from the receipt and immediate investment of the monthly subscriptions thereon. It follows that the money so received cannot be appropriated to other purposes without loss; hence the expenses of starting and giving publicity to a building society, and those also of its subsequent management, to however small a compass they are reduced, must be defrayed out of some other source of revenue than the share subscriptions.

If the initial and subsequent annual expenses could be accurately estimated beforehand, there would be no difficulty in determining what payment per share ought to be contributed by each member to meet the necessary outlay. In the majority of cases, however, the probable amount of the expenses is neither known nor provided for, although they are frequently asserted to be covered by the entrance

fees, fines for non-payment of subscriptions when due, and a few other trifling sources of profit, which the society may expect to receive. To a certain extent this is correct, but in no case are these receipts sufficient to defray more than a very small proportion of the expenses. In the first place it must be remembered that a fine is not wholly profit, a fine is inflicted at so much a month per share, for neglect of regularity in paying the monthly subscriptions when due, and therefore is partly requisite to supply the loss of interest which the society would otherwise experience. And even assuming that the preliminary expenses could be covered by the money received from entrance fees, which an inspection of the various balance sheets would prove to be very seldom the case, yet the *annual* charges of management, consisting of office rent, salaries, &c., must be provided for.

It can be shewn by an example taken at random, how such an annual outlay would affect the ultimate status of a terminating association. Take a 14-year building society, whose shares are £120, produced by a monthly subscription of 10*s.* or £6 a year, and whose annual expenses we will suppose to amount to £72 a year. Now £72 is 12 times £6, or equal to the amount of subscription received yearly on 12 shares, and therefore, by the fundamental statements of the society, is calculated as equivalent to 12 times £120, or £1440; consequently the annual charges must produce a deficiency of £1440 in the society's funds at the epoch of its originally expected termination. This instance will apply in principle to all societies, whether of 10, 12, or 14 years' duration, unless, independently of their monthly share subscriptions, they have adequately provided for the annual expenditure. An inspection of many of their annual balance sheets will moreover show that, when the different expenses in the course of the year are added together, they will frequently be found to average from £120 to £150 a

year, which, on the same principle of calculation as that made use of above, must create, even from this source alone, a deficiency in the society's funds of from £2400 to £3000 at the end.

In addition to the actual pecuniary loss they produce, the question of expenses gives rise to another objection to the terminating principle itself; viz., that from the circumstance of very few members joining after the commencement of such a society, on account of the heavy back subscriptions they would have to pay, all the preliminary and subsequent expenses fall on a small number of members, to a very disproportionate degree.

Thirdly.—*There is no provision made in the theoretical calculations for losses, which may be experienced through bad investments, &c.*

In all mercantile transactions of this kind losses must occasionally happen; and whether they arise from wilful neglect or carelessness, or other causes, such as deterioration in the value of property, they combine to produce an effect for which no provision is made in determining the subscriptions to be paid by members. Although at the commencement of a building society, it would of course be impossible to foresee the individual event, or even the nature of the events, which are likely to be productive of loss, yet it is a matter of experience that losses will occur, entailing a deficiency in the society's funds at the time of its promised termination, which, with the combination of the other defects already mentioned, will in the case of a terminating society tend to cause a *prolongation of its existence* beyond the originally intended or stated period. By this means the duration of the subscriptions of both investers and borrowers is extended, and they suffer in consequence a decided loss.

In the first clause of the Building Society Act, it is

provided that the duration of a society, and the consequent continuance of the borrower's repayments, shall depend not on any number of years specified in the prospectus, but upon the actual completion of the full amount of the *unadvanced* shares ; so that a society may not close at the end of the expected term of its existence, unless the funds collected at the *last* monthly meeting shall be sufficient to give to each of the non-borrowing members a division per share equal to its originally stated amount. If there be a deficiency, from whatever cause it may proceed, then must all the members, borrowers as well as non-borrowers, continue their subscriptions for such additional number of months as may be necessary, unless they should all unanimously agree to dissolve the society and put up with the loss sustained.

We are aware indeed that in some of the terminating societies, certain provisions have been inserted in the rules that, whatever be the position of the society's affairs at the end of the expected time of its duration, the borrowing members shall *not* be required to continue their payments beyond that period, but shall have their deeds returned to them, and their property released from any further claims. Such provisions are nevertheless of no legal avail whatever, and cannot prevent a prolongation of the society, nor in any way protect the borrowers from its consequences. No rule can protect him from a liability for such continuance of monthly subscriptions, as may be deemed necessary for the purpose of making up any deficiency that may exist.

It appears therefore that a society cannot possibly possess, at the end of the originally specified time, sufficient funds to give to each investor the full amount of his shares, even supposing the rates are accurately calculated, unless :— *Throughout the whole previous duration of the association,*

there has been no loss sustained, either through bad investments or other causes, or from extraneous expenses (not covered by sufficient extra contributions from each member over and above the receipts from fines, fees, &c.), and also unless no month has ever passed during which any part of the subscriptions have remained unproductive, so that, in other words, no loss of interest has at any time occurred.

Should there arise a deficiency from any one of these causes and the duration of the society be prolonged, it will be well to consider the effect which such a result has upon the relative interests of the investers and borrowers respectively. An extension of its existence for 3 or 4 years in reality causes the borrowers to pay much more for the loans they have obtained, than they imagined would be the case, when they entered into their engagements towards the society. The interest which they actually pay, instead of being perhaps only 5 or 7 per cent. becomes thereby increased to more than 10 per cent. An invester also not only does *not* receive the promised amount at the expected time, respecting which he may very likely have made pecuniary arrangements, but he is also compelled to continue his own subscriptions; by which means the benefit that he derives from his shares is very materially diminished.

As however the investers have still the option of withdrawing from the society if they are willing to accept the amount of dividend per share that the funds admit of, and thus mutually agree to dissolve the association; it will often be a question worthy of their serious consideration, whether it will not be better to endeavour to make an arrangement with the existing borrowing members, that the latter should at once contribute something towards the deficiency, to be determined by calculation, and then that all the members both investers and borrowers should agree to dissolve the society. Experience has

shewn that this plan will really be the most advantageous to the two classes of members, inasmuch as the investers will be prepared, in general, to put up with some loss, or in other words to release the borrowers on more liberal terms, in order to receive at once some money for their shares, however the amount may fall short of what they expected.

We have said that the borrowers have not to make good the whole deficiency in the society's funds, but only their proportionate amounts, considered relatively to the otherwise necessary continuation of subscriptions from both parties. Hence it will be advisable, in order to avoid an unintentional act of injustice to either, that the members should see that the proper quota to be contributed is determined by accurate calculation. In the Appendix we have given a specimen of the mode of investigation to be adopted.

In perusing these remarks respecting the majority of the existing societies, and comparing the liberal promises contained in their prospectuses with the periodic reports of the position of their affairs, we believe the impartial reader can arrive but at one conclusion. He will become satisfied:—That not one in twenty or even in a greater number can possibly realize for its members, whether investers or borrowers, the advantageous results originally promised; and that at the various epochs of their expected termination, there will be found such a deficiency of money as must deprive the possessors of unadvanced shares of a considerable portion of the accumulation which they had been led to expect:—That in many cases, so far from receiving £120 per share, they will obtain less than £75, and that, if not disposed to accept whatever sum may be then offered to them, they will be forced to continue their subscriptions for several years beyond the specified time:—That these unfortunate results have arisen in great measure

from a lack of proper knowledge and experience in the originators of these institutions, a circumstance that does not always escape the notice of the industrious classes, and tends largely to diminish their faith in the real advantages of prudent and economical habits:—Lastly, that strong legislative measures are necessary for the due regulation both of the legal establishment of a Building Society, and also of the system of its financial operations, and that some supervision should be exercised by truly competent persons, not only at the commencement of the society's existence, but subsequently from time to time throughout its progress.

CHAPTER IV.

ON PERMANENT BUILDING SOCIETIES.

Having reviewed some of the leading objections to the plan of terminating societies, which propose to close at the expiration of a fixed number of years, or as soon after as the stated amount of the unadvanced shares is realised, we will now proceed to examine in detail the various superior features of the permanent system.

To enable an institution of this kind to conduct its operations successfully, as regards the profit which is anticipated by the investing members, at the same time that the borrowers are freed from unjust responsibilities, it is proper, not only that the rates of subscription and repayment should depend upon a sound basis of mathematical reasoning; but also that the general system of the society's practical operations should be as much as possible clear from those defects, which either prevent the realisation of the expected interest within the calculated time, or produce injury and personal inconvenience to the members. It is essential that due provision should be made for the expenses and other liabilities, and that they should no longer be left dependent upon the uncertain receipts from fines or fees. The relative position of the two classes of members should also be more equitably considered, so that the profits of the one may not be increased by taking an unfair advantage of the other; and the period of the duration of a mortgage should be rendered definite, in order that the

claim of the society upon a borrower may be subject to equitable adjustment, in case of his being subsequently desirous of redeeming his property; since it is evident that any uncertainty as to the duration and amount of a debt tends materially to depreciate its value.

The Permanent plan appears to meet these requirements, as it is entirely free from most of the objections peculiar to terminating societies:—

1st. The difficulty of finding borrowers, at any time in the course of the existence of a society, is removed.

2dly. New members may enter in any month without paying up any arrears or increase of entrance fee. Hence the scope of the society's action is considerably augmented, and the power, resulting from mutual association, of doing good is greatly extended, as the number of shareholders increases year by year, and even month by month, instead of diminishing.

3dly. The initial and annual expenses can be more equitably divided, and spread over a larger number of members.

4thly. A member may under reasonable restrictions withdraw his subscriptions, or effect the redemption of a mortgage, without the delay or expense he would experience in a terminating society.

5thly. The duration of members' subscriptions can be fixed with greater certainty.

The system of a Permanent Building Society, which is most simple in its operations, may be explained as follows:—

The members are separated as before into two classes, Investers and Borrowers.

The investers pay a certain monthly subscription during a *fixed* number of years, calculated as sufficient for the realisation of their shares, at the end of which time the

amount due is paid to them and they secede from the association as far as such shares are concerned. The Investers represent the proprietors of the society. New members can enter at any time and commence their subscriptions without paying up any arrears or any increase on the original entrance fee, whereas in terminating societies, the fee on entering is increased without sufficient reason year by year, until from being originally only *2s. 6d.* it is in some cases raised to six pounds per share. The duration of a membership is counted from the month of a member's first entrance. This causes every month a fresh series of members to be added to the society or new shares to be issued, so that, taking an example, if the term of membership were 10 years or 120 months, and 50 new shares on the average were taken up every month, there would, at the end of the first 10 years, be 6000 shares subscribed, supposing always that if any were withdrawn the average were yet kept up by an increase in the new comers. At the end of the first 120 months, or 10 years, 50 would be paid out, but as new members would come in, the number of subscribers would be undiminished, and month by month afterwards, as successive periods of 120 months were completed, old members would go out and new ones come in.

The Borrowers receive at the time of obtaining an advance the full amount of their shares without any deduction beyond a trifling commission, which is withheld as a contribution towards the expenses and losses; the loan is secured by a mortgage on the property purchased, and in return they pay, during an *optional fixed* number of years previously agreed upon, a suitable monthly subscription, by which the loan is repaid with interest. The members, who become borrowers, at once cease to be investers in respect of the shares on which they obtain advances, and

do not participate in any of the subsequent liabilities or expenses of the society, nor consequently in its profits. The general liabilities are provided for by taking as the basis of the calculations a higher rate of interest for the repayments, than is actually guaranteed to the investers for the realization of their shares; that is to say, if the amount of each share held by an invester, which is guaranteed to him at the end of a fixed term of years, be equivalent to the accumulation of his subscriptions at 5 per cent. compound interest, the borrowers would nevertheless be charged about 7 per cent. This difference of 2 per cent. in the rate of interest obtained is temporarily withheld from the investers, in order to form a management and contingent fund, for the purpose of meeting the expenses and contingencies of loss on the mortgages. The commission, which is deducted from the loan, is proportionate to the number of years of its duration, and should vary in amount with the local circumstances of the place in which the society is conducted. A borrower must have been previously an invester, but immediately after he borrows, he passes over from one class to the other, receiving then whatever amount is due to him on his investing shares, as arising from his past subscriptions, with interest thereon from the date of his first joining up to the time of his obtaining the advance. The borrowers' repayments are for a fixed term of years, whatever be the subsequent condition of the society. This is one great improvement upon the old system, where the period of the subscriptions would depend on the future success or non-success of the association, or upon the contingency of any loss being sustained by it from other property mortgaged to other members—so that in many cases the repayments are extended over several years more than was expected by a borrower when he first effected his loan.

As regards those members who remain investers, the

system of periodically dividing a bonus from the profits is adopted, which has been found so productive of safety and success to Life Assurance companies. Instead of forestalling the society's profits, by reducing the monthly subscriptions of the investers to such a degree as barely to leave them sufficient, even theoretically speaking, to produce by accumulation the amount of the shares, the safer plan already alluded to is adopted of keeping the subscriptions sufficiently high to be theoretically and practically adequate for the purposes. Any *surplus* profits, which may arise beyond the promised amount of the unadvanced shares, are periodically and proportionately divided among the investers in the shape of a bonus to be paid to them, with the other sums due on the completion of the subscriptions on each share. The bonus system thus possesses very great advantages, inasmuch as it preserves to the society the possession of a reserve fund over which it has power, and whence any unexpected losses may be met.

In a permanent institution of this kind there will be little difficulty in obtaining borrowers, for the great objection disappears which is made against terminating societies:—*viz.*, that after a few years of their existence, the duration of a mortgage is too limited and the loan-repayments too heavy to suit the means of the class who are usually members. If the society be permanent, a member can at any time become a borrower, and yet have his loan for whatever period is most suited to his means, the amount of monthly payments required being less as the duration of the loan is extended.

Again, since new members may come in at any time without paying up any arrears, the society will if properly managed continually receive a fresh accession of strength from new subscribers, and thus generally possess, at each meeting, funds sufficiently large to be capable of being

invested without delay; whereas it has been stated before as one of the difficulties in the old societies, that from their being comparatively confined in their action, the funds collected at a subscription meeting are frequently insufficient to meet the wants of any borrowing member, and are consequently left idle and unproductive of interest for some months, until by subsequent additions they amount to the sum required.

The permanent principle therefore possesses several elements, which tend materially to confirm the calculations founded on the *probability of a continuous realisation of interest.*

It is however necessary and proper that a higher rate of interest should be charged, in determining the borrowers' repayments, than is actually guaranteed to the investers, in return for the subscriptions contributed by them, in order that some margin may thus be provided for the various contingencies to which these societies are exposed. These contingencies arise not from the investers but from the borrowers. It is through the loans that losses are likely to be produced, and the borrowers should therefore pay sufficient interest to protect the investers from such casualties. The security offered to building societies is one of peculiar liability to be of an unsound nature, and experience shews, that out of a large number of such investments, a few bad cases will always arise entailing loss. By charging however a sufficiently high rate of interest from the borrowers, the annual receipts from that source may be made large enough, not only to meet the engagements in respect of interest on their subscriptions, which the society has contracted towards the investers, but also to cover any loss arising from bad security or other causes.

In societies formed for the purpose of purchasing or

dealing with property in or around London or other large towns, a very fair plan is to take 7 per cent. rate of interest as the basis of the loan repayments, since even that rate is sufficiently low to enable a member to purchase a house on comparatively moderate terms, and in consequence of the greater opportunities for other investments, at nearly as high rates of interest, possessed by London residents, which they might consider more secure than house-mortgages, it would be nearly impossible to find lenders, or investers, if a lower rate were charged, as (supposing that the expenses and losses, which might arise, should absorb 2 per cent. off the rate of interest obtained) they would not clear more than 5 per cent. for their money.

Again; the expenses, both initial and annual, can be more equitably divided over present and future shareholders.

First as regards the initial expenses, instead of their being defrayed by the first series of members, they can be charged as a debt against future as well as present subscribers, and be paid off by a certain fixed temporary deduction from the surplus profits of the society. The annual expenses will in a similar manner be borne by a much greater number of members, than is the case in associations formed on the terminating principle, with this one peculiar additional advantage, that year by year as the society progresses, until the close of the first period of the duration of the investers' shares, the number of contributors will increase, instead of diminishing.

In permanent societies, any Borrower who may desire it, can, under certain practical restrictions, be permitted *to redeem his mortgage* on much more equitable terms than under the old system.

In a society of limited duration, if a borrower or his

family in case of his death, before the mortgage is cleared off, make application to pay off the remainder of the debt, a much larger sum is exacted, than would be required on a mere theoretical view of the question, in consequence of the society no longer possessing opportunities of investment for any sum which may be returned on its hands, as the other members are unwilling to borrow, when the loan can only be obtained for a few years. So that a borrower, who wishes to clear off his mortgage before the close of the association, has to pay not only the net value of the remainder of his debt, but also some compensation for the loss of interest, which will be experienced in those years, during which the money thus returned will remain idle and unproductive in the hands of the society. Hence instances constantly occur of amounts being required in redemption of a mortgage, which would be considered unfair and exorbitant, were it not for the peculiar circumstances of the case.

In a permanent association, on the contrary, as opportunities for investments abound, the directors would be ready to offer fair and reasonable terms for a redemption, in order to increase their power of encouraging the entry of new members by the prospect of an early advance.

On the other hand *the withdrawal of shares* by Investing members is greatly facilitated.

In terminating societies, persons who may desire to discontinue their membership, cannot do so without much difficulty and delay, because the money they have subscribed is engaged in the society's investments; and as few, if any, new members join after two or three years, the funds received from time to time can only with considerable restriction be paid out on withdrawing shares. Hence it has been customary to inflict fines varying from 5*s*. to £3

per share on parties withdrawing. This deduction is severely felt by the poor man, who, when endeavouring to save a few pounds, does not know at what time he may require them; and who from unforseen circumstances may desire to withdraw some portion of his subscriptions, as the only means of freeing himself from, perhaps, temporary difficulties. Yet if withdrawals were permitted without restriction, a terminating society could never lend out the whole of the sums invested, as it might be called upon at any time to return an inconvenient portion of them. Consequently in all the old building societies, the rules attempt to provide against this difficulty by making it not easy to withdraw shares. Moreover the societies themselves are injured by applications for withdrawal, which they cannot satisfy, as a feeling of distrust is excited which materially affects their subsequent operations. This inconvenience does not exist in the permanent plan, simply because new members continually enter, and there is always a floating balance sufficient to meet any applications for withdrawal within reasonable limits.

The permanent system, described in the foregoing pages, will best be understood by an example taken from the rules of one of the societies, founded on that principle, which has met with great success:—

"The shares of investing members are £100 each, for
"which the subscription is 13*s.* 0*d.* *a month* for ten years
"or 120 months. They may however take half shares of
"£50, or quarter shares of £25 each, if they prefer it.
"Investing members can *withdraw* without fine at any time
"from the society *after* the first year, when the amount
"of their subscriptions will be returned, with interest at 5
"per cent., according to the following table for whole shares,
"and so in proportion for half and quarter shares, *viz.*,

Without Profits.	At the end of the first year .	£. 7	16	0
	„ 2 years . .	15	19	9
	„ 3 „ . . .	24	11	9
	„ 4 „ . . .	33	12	4
	„ 5 „ . . .	43	1	11
	„ 6 „ . . .	53	1	1
	„ 7 „ . . .	63	10	1
	„ 8 „ . . .	74	9	7
	„ 9 „ . . .	86	0	1
At the last or 10th year . . .		100	0	0

(With Profits in addition to the £100.)"

This table is calculated at 5 per cent. compound interest, on the supposition of both the interest and subscriptions being annual, or paid at the *end* of each year. At the end of the 10th year the sum realised on such a calculation is £98 and a fraction, but the trifling extra allowance is made, both because it can be done safely at the end of 10 years, considering the profits realised by the actual mode in which the payments are received, and also from the necessity of making some distinction between those members who may withdraw before hand, and those who remain connected with the society until the end of their 120th subscription.

" Parties intending to borrow must, in order to qualify, " previously become members; and, at the time of borrow- " ing, they will be repaid the sum due for the past subscrip- " tions on their shares with interest, and then receive as a " loan the full amount of any number of shares they may re- " quire, without any deduction, beyond a small commission, " which will be carried to the credit of a management " and contingent fund, to defray expenses, &c.

" Loans, to the extent of £800, will be made to members

" on security of freehold or leasehold property, house or " land, in any part of England, for 5, 7, 10, 12, or 14 years, " according as they may prefer.

" Example—A member borrowing £100 on mortgage " will only be required to make the following repayments, " including principal and interest, *viz.*—

" If for 5 years	£2. 0. 8	monthly	or	£6. 5. 0	quarterly	
„ 7 „	1. 11. 0	„		4. 15. 4	„	
„ 10 „	1. 3. 9	„		3. 13. 1	„	
„ 12 „	1. 1. 0	„		3. 4. 6	„	
„ 14 „	0. 19. 1	„		2. 18. 9	„	"

The repayments of the borrowers are calculated on a 7 per cent. rate of interest, whether the loan be taken for 5, 7, 10, 12, or 14 years, and, although actually paid monthly or quarterly, they are regarded in the calculation as made *yearly* and at the *end* of each year. This creates but a slight augmentation in the amount of the periodic repayments, and yet tends materially to increase the safety of the basis on which such a society is founded.

" The amount of commission deducted is what a careful " examination of the expenses and losses of other similar " institutions has shewn to be necessary and sufficient."

" The *surplus* profits of the society, (over and above the " promised amount of the unadvanced shares,) will be ascer- " tained yearly by an Actuary, and be apportioned, *two-* " *thirds* to the credit of the investers, to be paid to them as " a Bonus at the termination of their 10-year membership ; " the *other third* to be carried to the credit of a Perma- " nent guarantee fund, formed to meet any loss which " may arise. This proportion in the division of surplus " profits will however be varied as may be considered " advisable, after the expiration of the first ten years of " the society's existence.

" There will be no loss from bidding. Should there be " more applicants for advances than can be supplied at one " time, priority will be settled by ballot.

" The receipts arising from the entrance fees, fines, &c., " will all be carried to the credit of the management and " contingent fund, out of which the different expenses will " be defrayed.

" As an example of the working of this society :—

" Suppose a member purchases a house for £300, which " would return a *net rental* of £30 per annum, and " he borrows that sum, for which his repayments " during ten years, covering principal and interest, would " amount, at per annum, (by monthly instalments of " £3. 11*s.* 3*d.*) to . . . . £. 42 15 0

" Multiplied by 10 years . . . 10

" Making the total repayments . £.427 10 0

" Deduct 10 years' rent (paid or received) £.300 0 0

" Leaving the cost as far as the building " society is concerned . . . £.127 10 0

" For which sum the member has thus secured to his family " a house, free of rent for the remainder of its lease. The " above example is for 10 years; a party can, however, " purchase a house by smaller annual payments, by taking " the loan out for 12 or 14 years."

" The deduction for commission, and the law expenses " must be provided for from some private source, they " of course add to the expenses of the purchase, but " it should be remembered that the payments of the " borrowers can in no way be increased or extended " beyond the specified period for which the loan is taken, " as is the case in the old societies.

" Taking an example from one of them whose shares " are £120, upon which in the first year a borrower would " receive only about £55 in cash and occasionally much less. " He would be required to pay 14*s.* per month per share, or " 8*l.* 8*s.* 0*d.* per annum, until the close of the society, which " is more likely to extend to 14, or even 16 years, than to " terminate in 10 years. But confining the question to 10 " years, in order to obtain a loan of £300, he would have to " pay a subscription upon five and a half shares, amounting " to 46*l.* 4*s.* 0*d.* a-year; whereas, in this society, it would " cost only 42*l.* 15*s.* 0*d.*"

In the permanent plan just described, the period of the Investers' subscriptions is supposed to be 10 years, but it might be made longer or shorter without affecting the principle. For instance 12 or 14 years might be adopted equally well, and the corresponding monthly subscriptions for the same amount per share would be smaller, although the result would be the same to an Invester whatever term were adopted, if the basis of the subscriptions were on the same rate of interest. We should recommend, however, that to avoid complication, in no society should the investers have more than one period for the realisation of the unadvanced shares, and their monthly subscriptions should not be less, than what would be required to produce by accumulation the shares in the stated time at 5 per cent. compound yearly interest. Although it is not possible a priori to estimate the amount of *surplus* profit, which will remain at the end of each period of 10 years, when the expenses and any losses that may occur have been provided for, yet it is reasonable to expect, that if the society be carefully managed, each invester will receive a Bonus in addition to the originally promised amount of his share. What that Bonus will be must depend on the

success of the association, and each member will therefore find it to his advantage to add his individual efforts in promoting its prosperity. It will be satisfactory to reflect that the management and contingent fund will be amply adequate for its purpose, since it will include not only the entrance fees, fines, and commission deducted from the loans at the time of an advance, but moreover a fluctuating reserve on each £100 share, arising from the circumstance, that the annual subscriptions paid by an investing member, *viz.*, 13*s.* a month or 7*l.* 16*s.* 0*d.* a year, are invested at 7 per cent. compound interest, and in the case of its being realized monthly, the reserve would be as high as £11 per share.—See Section IV. Appendix.

CHAPTER V.

THE PRACTICAL MANAGEMENT OF A BUILDING SOCIETY.

After recommending the adoption of the permanent instead of terminating principle, in the formation of future building societies, it may not be out of place to add a few remarks relative to their subsequent practical management.

At the commencement, great care ought to be exercised in the judicious selection of suitable persons as officers. The most important of these are undoubtedly the *solicitor* and *surveyor*, from their influence for good or evil on the operations of the society; for it is upon their testimony respecting the soundness and adequacy of the security offered for an investment, that its safety and prosperity entirely depend.

When a member is desirous of purchasing a house, or other similar property, he makes application to the directors, who instruct the surveyor to examine and report on the nature, position and value of the proposed purchase. If these be satisfactory, they then direct the solicitor to examine into the right of sale or title which the seller possesses. Should this also prove unexceptionable, the money is advanced for the purchase, its repayment being secured by a mortgage on the property for an agreed term of years. Let us now examine the position of the Building Society with respect to this investment.

If at some subsequent time, before the mortgage is cleared off, the borrower were to discontinue his payments, the society would be under the necessity of seizing the property and reselling it, in order to recover the remaining

amount yet due to it. Thence would arise various chances of loss.

It may happen that the locality in which the property is situated may have diminished in public estimation, as is frequently the case with many parts of London and other large towns; or the necessary repairs to which any new purchaser would be exposed, if they have been neglected by the late occupier, might be found too heavy. Perhaps by a wilful misstatement or an error in judgment on the part of the surveyor, the house may have been estimated at more than its real value; or lastly some defect in the original title may be discovered. In any one of these cases an attempt to resell the property would occasion loss.

Now these contingencies may in a great measure be averted by the selection of careful and respectable officers.

1st. As regards the SOLICITOR, who examines the title to the property. This branch of law business, which is technically termed "conveyancing," is one of great intricacy and difficulty, and requires peculiar skill and experience in the person who undertakes it. The title-deeds to property are often much involved, or present flaws and deficiencies, which can only be detected by the most searching and patient inquiry. On the other hand the prosperity of a building society, the security of its investing members during the continuance of a mortgage, and the subsequent undisturbed enjoyment by the borrower of the property purchased, depend solely and entirely upon the validity of these titles, and the correct appreciation of the property which they represent.

For these reasons, the election of a competent solicitor is one of the most important duties which belong to the directors of the society.

The person chosen should possess both experience and

talent; he should be a man of integrity and firm principle, incapable alike of being influenced by motives of interest or feelings of private friendship; and, besides these indispensable qualifications, he should, if possible, in common with the other officers of the society, be possessed of an extensive connection and be thus able to introduce a large number of shareholders.

To secure the services of a person thus qualified, an adequate and liberal remuneration must be offered, instead of the insufficient fees, which have hitherto been often tendered by building societies to their solicitors. The recompense should be proportionate not only to the actual value of the work done, but also to the heavy responsibility attached to the office which they hold; for, should the society sustain any loss through the inaptitude or carelessness of its solicitor, he is legally bound to make good the deficiency. An example of this is reported in *The Times* newspaper of the 12th of April 1842, containing a trial at the Liverpool Assizes, of an action brought by the trustees of a building society against the solicitors employed in preparing the mortgage deed to the society, for a sum of £1,350 lent to a shareholder. It appeared that the property intended to be mortgaged was freehold, and that the solicitors had, by some oversight, omitted to obtain the assignment of an "attendant term;" by which means, when it became necessary to proceed to a sale of the property, in consequence of the non-payment of the subscriptions due from the shareholder, it was found that the mortgage was useless for that purpose. The society, therefore, brought their action against the solicitors to recover the money, which had been advanced on the faith of their taking a proper security. The jury gave a verdict for the society (the plaintiffs) for £1,350. The counsel for the building society, in his address

to the jury, stated, in reference to the profession of a solicitor, that—"No profession was of more importance to society; none exercised a wider influence. Every man's property was at their mercy; and on their skill and integrity every one relied."

Besides the necessity of offering an ample remuneration to the solicitor of a building society, it is also highly important that the amount of his fees, whatever it be, should be fixed before hand, at the time of his election to the office.

2ndly. The SURVEYOR of the society stands next in importance to the solicitor, his duties being attended with great difficulties, and considerable experience and judgment being requisite to enable him to form anything approaching to an accurate estimate of the pecuniary value of property.

This value will depend on several varying conditions. The tenure by which the property is held may be freehold, copyhold or leasehold; in the latter case the number of years yet unexpired in the lease must be taken into consideration. The neighbourhood in which the property is situated may be likely to rise or fall in public opinion. Any estimate, calculated on the amount of rent actually paid, is little to be trusted, as attempts are not unfrequently made to mislead the surveyor, by letting the property at a nominal rent much larger than is actually paid for it.

The surveyor therefore must not only be able to estimate the materials and cost of erection, but he must be well acquainted with the locality in which he is employed, and he must have sufficient experience to enable him to detect the artifices by which the vendors of property endeavour to exaggerate its value.

The false estimates, which are sometimes productive of

so much loss to building societies, are not always the fruits of incapacity or inexperience. Cases have occurred of compacts between the surveyor and the vendor or the purchaser of property, or even some officer of the society, to share between themselves the profits of an unfair valuation.

To guard against the possibility of such fraudulent practices as these, a man of high moral integrity should be chosen ; and he should, as well as the solicitor, be liberally remunerated for his services.

Several expedients have been adopted, with the view of obtaining a check on the estimates of the surveyors of building societies. It has been recommended that they should be paid out of the ordinary funds of the society, instead of by the borrowing members individually, so as to destroy any reciprocity of action or feeling between them and the mortgagors of property. Some societies appoint a survey committee to act as a check between the surveyor and purchaser, and a regulation has been proposed to prevent any subsequent transfer of property, from a member to the surveyor or to any individual of the survey committee. All these may be useful as auxiliary measures, but the necessity for them will be much diminished by a previous examination into the character of the person employed.

3rdly. The MANAGER.—We have placed the Solicitor and the Surveyor of a society first in importance on the list of its officers, because we believe that, provided they are unexceptionable, and the manager be simply an honest, intelligent, and active man, little more is wanting to carry on with advantage an institution formed on a correct basis as regards its rates of subscription. It is, however, essential that any person proposed as a manager should be thoroughly acquainted with the fundamental principles of compound interest and the practice of tables relating thereto. Much

mischief and inequitable dealing has occurred in several of the existing societies, from the ignorance of their managers on that subject, and it were well if some regulation were enforced, requiring that every person, who intends to become the manager of an association in which the savings of the poor are engaged, should first obtain from competent persons a certificate of his qualifications for the office. Since not a little depends on the zeal and attention with which the manager performs his duties, it is but reasonable that he should be paid as his exertions demand. Experience has long shewn that it is a sorry and false economy, not to give an adequate remuneration to men, who superintend the affairs of important institutions.

4thly.—The AUDITORS of the society occupy also very responsible situations. The members entirely rely on their careful examination from time to time of the accounts and balance sheets. Not only is it their duty to see that correct vouchers are produced corresponding to the items of expenses or receipts, but they should examine strictly into the formation of the annual or more frequent balance sheet, purporting to shew the pecuniary position of the society at the time of audit. Upon the faith of the statements contained in these balance sheets, it is customary for the directors of the institution to found their report of its progress. By erroneously placing sums to the credit of profit, which are not such in reality, the shares of many societies have been stated to have increased in value, at the end of a few years, to a very unreasonable degree, while in fact a careful inspection of the items proves, that so far from the shares having really realised the pretended profit, they have actually diminished in value. For this reason it is of urgent necessity, that the auditors should be careful and experienced persons, well versed in the practice of book-keeping and the calculation of interest.

5thly. The ARBITRATORS.—By the 27th section of the statute 10 Geo. IV., cap. 56, respecting Friendly Societies, which has been extended in the Act of 1836 to Benefit Building Societies, members of these latter institutions are empowered to appoint Arbitrators, by whom all disputes shall be settled, and whose award is to be final on any matters referred to them. If the society do not within forty days after application from a member, who considers himself aggrieved, appoint arbitrators to investigate his case, he may submit the matter to any two justices of the peace, who are empowered to give a decision, by which the society will be bound.

Turning from the officers of the society to the details of its practical working, we shall next examine several points respecting which there is considerable difference of opinion, even among persons who are most experienced in building society transactions.

With reference to the mode of granting advances to members, when there are applications for loans exceeding the amount of money which can be lent, three plans exist; viz.: either by *Bidding*, *Rotation* (that is seniority on the list of applicants), or by *Ballot*. The two first appear to present more objections than the third, although it is extremely difficult to decide, what system can be adopted as likely to be entirely free from inconvenience.

The plan of determining by *Bidding* who is to have the preference for an advance, consists in putting the sum proposed to be lent, up to auction among the members, and in finally allotting it to the person who offers the highest discount for it. This may be explained by an example:—In a 10 years society, suppose there is a certain sum ready to be advanced. The chairman puts up, say, one share of

£120., and enquires what discount will be allowed for it. The members present hand in written biddings to him, and he declares the highest discount offered; upon which the bidding is commenced a second time and the result is again declared, and finally a third trial is made, and the advance is allotted to that member who has offered the largest discount. By this plan, members who had no intention to borrow, have had the power of raising the discount offered, by bidding during the first and second trials and abstaining the third time, the profits derived by the non-borrowers depending on the magnitude of the discount obtained. An attempt has been made to remove this objection by causing the biddings to be made by word of mouth, as at a public auction, and only allowing one trial. The system of bidding however still causes borrowing members to obtain advances on most unequitable terms. Cases continually occur, where discounts, for £120 shares, are given as high as £70 and even £80 in the first year. By this means the borrower receives only £50, or even £40, at the beginning, in lieu of £120, the full amount of his share at the end of the society. And as he has to pay 14*s.* a month for 10 years, or 8*l.* 8*s.* 0*d.* a year, his advance costs him considerably over 10 per cent. rate of interest.

Between the Rotation or Seniority system, and Balloting, it is difficult to make a choice. By the first a member puts his name down on the list of applicants, and waits his turn for an advance. If the society has been some months in existence, when he joins or wishes to borrow, he may have to wait a considerable time before he obtains the loan he desires.

By the *Balloting* plan, the names of all the applicants are placed together in a ballot-box, and one is drawn out by lot, to whom preference is given. To this last arrangement the modern societies seem to incline, because, without the

enormous losses consequent on the *Bidding* system, and the delay certain to attend that by *Rotation*, each of the borrowing members individually has a chance of being fortunate enough to obtain the first right to an advance.

As the names are drawn out of the ballot-box a list is formed in the order of which the loans are to be granted. If there is not money enough to suit all the applicants at once, those members whose names remain on the list have preference at the next advance before any subsequent ballot, provided they have been six months in the society.

It has been lately imagined that the system of Balloting is not legal, inasmuch as it might be considered a species of lottery. Such an impression is entirely without foundation, since the Ballot is merely introduced in a permanent Building Society for the simple purpose of collecting for an individual preference the names of the members who desire to become borrowers and receive advances, for which each and all have to pay after the same rate of subscription and interest. No favour in respect of repayment being obtained by any. The ordinary lotteries were very properly prohibited from very different motives, because they encouraged a system of gambling, by which one man was made rich, while his less fortunate rivals became impoverished. No analogy exists between the two cases.

In *the general conduct* of the society it ought to be borne in mind, that at its commencement a liberal yet careful outlay is requisite, to give due publicity to its principles in the districts over which its operations are proposed to extend. The preliminary expenses may perhaps be large in amount, but where they have been judiciously incurred, they are sure to be amply repaid by the future extent and importance of the institution. In order to effect legitimately and advantageously the main object of building societies, care should be taken that the personal interests of no indi-

vidual member are sacrificed by the adoption of any unjust regulations, which may have been introduced for the special advantage of another. As the chief aim is to provide a home for those, who otherwise might not be in circumstances to obtain it, the amount of available funds during each year should be so apportioned as to supply the greatest possible number with advances. Where a member has pecuniary means of his own, he ought readily to apply it towards part of his purchase, so that his less fortunate neighbour may participate to the fullest extent in the assistance which the society can afford him.

Again, there is in general less spirit of speculation on the part of a borrower, who intends to occupy the house himself which he desires to buy, and it is found by experience that more substantial property is offered for security in such cases.

The Rules should be framed by persons well versed in the theory and practice of building societies, so that the advantages of both sound and new features may be secured. All such provisions, as experience has proved to be productive of loss or inconvenience, must be excluded. A set of rules applicable to the proposed permanent plan of a building society is added in this work, and may, with careful modifications, be adapted to the circumstances of particular localities. See Chapter VII.

Lastly.—It is desirable that no meeting of the society should ever be held at any tavern or public house. The members may save much money by the adoption of this rule. They may do more: they may deliver themselves from the temptation to form habits of intemperance and useless expenditure, which, to view them in no worse light, well nigh counterbalance all the advantages to be derived from these institutions.

CHAPTER VI.

THE BALANCE SHEETS OF BUILDING SOCIETIES.

We have mentioned before, that it is customary for all building societies to produce once a year at least, a balance sheet shewing the state of their pecuniary affairs, which is certified by the auditors as correct, and generally concludes with an estimate of the improvement in the value of the shares, attained by the operations of the preceding year. It is evidently of the greatest importance that such statements should be accurate, for if a fictitious amount of profit be declared, the directors, not being aware of the error, are induced to make a corresponding augmentation in the entrance fee, to be required from any one who may subsequently desire to join the society, and participate in the supposed profits, whereby persons would be deterred from entering and the scope of the association would be curtailed. The existing members also would conceive a false impression respecting the pecuniary value of their shares, and if any of them should desire to withdraw from the society before its termination, they would expect, and the directors might be led to pay to them, a premium equivalent to the profit declared, which, if it be overrated, must be prejudicial to the interests of the general body of shareholders. Moreover others, who might be disposed to seek for advances, would imagine that, if so large a profit can be made so soon, they surely would be paying too high a rate of interest for the loan desired. They might consequently become dissatisfied, and would not borrow. The pernici-

ous effect of these erroneous estimates is not confined to the members of the society in which they occur. The false experience thus created is quoted by the promoters of new associations formed on the same scheme, and serves both as an excuse for copying it with all the errors it may contain, without further inquiry into its safety or practicability, and also as a means of attracting members eager to participate in similar advantages.

Such are the evil consequences attending an inaccurate statement of the position of a society at the end of any year, and yet in few instances are the balance sheets free from mistakes equally important with those, which are found in the rules and rates of subscription.

The main source of error consists in the practice of inserting the whole nominal amount of a share, for instance £120, as having been lent in cash to a borrowing member, when probably he has only received £55 or £60. This is obviously incorrect, since it matters not what is the nominal value of the share, but merely what present sum in money has actually been advanced upon it, in lieu of the full amount, which the shareholder would be otherwise entitled to claim at the close of the society, and for which advance he has to pay a monthly annuity for a certain number of years.

In general the only profit apparent in the annual statements, is that resulting from the *interest* obtained by investing the subscriptions in loans, and, as such, is merely what was assumed as probable in the fundamental calculations. By the accumulations of interest year by year the expected amount of the shares can alone be realised, and the yearly profit thus produced is not a matter of congratulation, as if it were unexpected, but simply the means, by which the suppositions forming the basis of the society are rendered true. Hence if a profit at the end

of any year be shewn, it cannot be carried to the credit of any but the *investing* or non-borrowing members, who are making their monthly payments in the hope of receiving, at the end of a certain number of years, the promised accumulation of their subscriptions and compound interest thereon, which together are represented by the shares they hold. The borrowers having cancelled their shares by the loans obtained, are not interested in, or entitled to, any portion of the profit or interest realised.

The plan hitherto adopted of making a balance sheet serve to give an estimate of the profit annually realised on the shares, is productive of the greatest confusion. The terms Dr. and Cr. tend to mislead, if the figures under their head are considered relative to profit or loss experienced. A balance sheet merely supplies information as to the items of money received, and the mode in which such receipts have been disposed of. It expresses no opinion, as to whether any advantage or disadvantage has been derived from the way in which the money has been laid out, but simply conveys the facts as they have occurred; and as such is useful and necessary for the protection of the shareholders, because it shews clearly how the pecuniary affairs of the association are managed. In the other point of view it is not of much value, as something more is required, than a mere statement of money received and money spent or invested, to attain a satisfactory view of the position of the society as regards profit or loss incurred. When the auditors see under the head of Cr. a heavy item for expenses of management, it does not occur to them that so much money is sunk and gone from the society for ever; the money is accounted for, that is all.

To arrive effectually at the actual value of the shares, an annual valuation of quite a different character should be made, on the same plan as that adopted by Life-Assurance

companies; by which not only the sums received, and then invested or spent, or paid out on withdrawal, are considered; but the *present value* also is estimated, of the profit to be expected from the advantageous nature of the society's investments by the advances to the borrowers, relatively with the *present value* of its engagements in respect to the shares held by non-borrowers. This is not the business of a mere balance sheet, but must be effected by a correct mathematical calculation, in which the expected duration of the subscriptions, and the interest actually realised, are taken into account.

This distinction has been overlooked by several writers in periodicals treating of this subject, who, in reviewing balance sheets, appear to believe, that in order to ascertain correctly the yearly profit or loss of a society, it is sufficient to form a profit and loss account, placing on the one side the various items of receipts from entrance fees, redemption fees, fines, &c., and on the other side the expenses, and to consider the balance, whichever it be, profit or loss, as representing the true value of the shares. The same rule being applied indiscriminately to every description of building society, without any reference to the essential consideration, as to whether the rates of investers' subscriptions or borrowers' repayments are adequate to the originally promised results. The members however can feel no security, respecting the actual progress of the society and their own future liabilities, unless an accurate estimate of the profit and loss experienced by it be made from time to time; and we would strongly impress upon them the necessity of insisting on the production at the annual meetings, of an accurate and complete valuation of the position of the society at the time, distinct from the ordinary balance sheet.

Having mentioned the correct method, which ought to

be adopted, we will proceed to give three specimens of balance sheets taken at random from a number of similar reports, for the purpose of shewing how they have hitherto been prepared.

BALANCE SHEETS.

No. 1.

Extract from the report of the ——— Society. Shares, £120; monthly subscriptions 10*s.* per share (see page 32) :—

" The directors have to congratulate the members on the success which has attended the operations of the society during the past year—a success which verifies the correctness of the prospectus issued at its formation.

" The balance sheet shews the superior advantage of building societies over other modes of investment; for if the amount received had been placed—say in a savings' bank, the profit would have been about £43., or 1*s.* 10½*d.* per share; while by the legitimate operations of the society the profit secured has amounted to 2738*l.* 18*s.* 8*d.*, or 6*l.* 0*s.* 9½*d.* on the £6 per share paid,—making the present value 12*l.* 0*s.* 9½*d.*"

Copy of the balance sheet annexed to the report, given verbatim :—

" *Dr.*

Entrance money	£70	2	6			
Subscriptions in advance	1	0	0			
Subscriptions for twelve months	2530	10	0			
Forfeited shares	2	0	0			
Fines	12	1	0			
Transfers	9	5	0			
Postage	2	11	0			
Interest	21	12	10			
				2649	2	4
Premiums (or discount) on 33 (£120) shares taken up	1916	5	0			
Premiums on 12½ shares not taken up, but for which the society has funds	764	10	0			
				2680	15	0
Arrears:						
Subscriptions	190	10	0			
Fines	17	16	0			
Interest	2	0	0			
Postage	1	1	6			
				211	7	6
				£5541	4	10

" *Cr.*

By formation expenses, including enrolment of rules, and deed boxes				£25	14	2		
Manager's salary				50	0	0		
Postage				5	12	0		
							81	6	2
By mortgaged property				480	0	0		
„ „				240	0	0		
„ „				240	0	0		
„ „				2040	0	0		
„ „				960	0	0		
				3960	0	0		
By arrears of subscription	£211	7	6					
Premiums	764	10	0					
Cash at bankers	524	0	10					
Cash in manager's hands	0	0	4					
				1499	18	8		
							5459	18	8
							£5541	4	10

To balance in favour of the society brought down	£5459	18	8				
Deduct subscriptions on 453½ shares, at £6 per share	2721	0	0				
Net profit realised	£2738	18	8	equal to	6	0	9½ per share
				Cash paid	6	0	0
The present value of each share				£12	0	9½	"

The directors in the above congratulate the members on the success of the society, which they affirm is manifested by the profit, 6*l.* 0*s.* 9½*d.* per share, realized in one year over the £6 year's subscription paid, a result equivalent to more than 100 per cent. interest for the money.

This statement is, however, not correct; and the error arises from the *whole nominal amount* of the 33 *advanced* shares, or £3960, being entered to the Cr. as having been lent on mortgage, whereas in reality the *difference* 2043*l.* 15*s.* 0*d.*, (between £3960 and the *discount* or

premiums 1916*l.* 5*s.* 0*d.* given by the borrowers for the loan) is all that has been advanced. Moreover the item 764*l.* 10*s.* 0*d.*, respecting the shares *not taken* up, but for which premiums have nominally been given, has obviously nothing to do with the business of the *past* year, and ought not to have appeared in the balance sheet.

These considerations change the result:—The following is a copy of the preceding balance sheet, arranged as it should be; *viz.*: by placing only the money *actually received* or due for arrears on the one side, and the money *actually paid* on the other.

Dr.			
Entrance money	£70 2 6		
Subscriptions in advance	1 0 0		
Subscriptions for twelve months	2530 10 0		
Forfeited shares	2 0 0		
Fines	12 1 0		
Transfers	9 5 0		
Postage (received from members)	2 11 0		
Interest	21 12 10		
		2649 2 4	
Arrears:			
Subscriptions	190 10 0		
Fines	17 16 0		
Interest	2 0 0		
Postage	1 1 6		
		211 7 6	
		£2860 9 10	
Cr.			
By formation expenses, including enrolment of rules, and deed boxes	25 14 2		
Manager's salary	50 0 0		
Postage (year's expense to the society)	5 12 0		
		81 6 2	
By 33 shares taken up, value at £120 each	3960 0 0		
Less the discount (or *Premiums*)	1916 5 0		
Carried forward	£2043 15 0	£81 6 2	

Brought over.....				£2013	15	0	£81	6	2
By arrears of subscription	£211	7	6						
Cash at bankers	524	0	10						
Cash in manager's hands	0	0	4						
				735	8	8			
							2779	3	8
							£2860	9	10

To balance in favour of the society brought down	£2779	3	8
Deduct one year's subscriptions on 453½ shares, at £6 per share	2721	0	0
Difference.....	£58	3	8

which, divided among the number of investers' shares, or those which have not been advanced, will give the dividend per share for the past year.

But the number of *unadvanced* shares is 453½ less 33 or 420½, and 58*l.* 3*s.* 8*d.* divided by 420½ equals 2*s.* 9¼*d.* nearly, which is the result of the past year's operations of this building society, *as far as the above debtor and creditor account is concerned*, and entitles the investers to receive 2*s.* 9¼*d.* per share at its termination, in addition to the £6 paid by each.

The *true value* of each share can only be ascertained by the method described in the preceding pages, in which would enter the various considerations deduced from the particular nature of the society.

No. 2.

"The ———— Mutual Association."

Established in October, 1845. Original entrance fee, 2*s.* 6*d.* Monthly subscriptions, 10*s.* Redemption, 4*s.* per share of £120 each.

In the *third* annual report of this society, published

December 2nd, 1848, the directors state, that 85½ shares have been advanced during the last year, which, added to those in the two previous years, make a total of 261½ shares, on account of which securities have been lodged with the society.

"Since the auditing of the accounts, 5½ shares, not included in that number, have been further advanced, which will make 267 out of 635 shares subscribed for; and the directors are under engagements to advance 20 shares out of the fourth year's capital.

"The *present entrance fee* upon new and additional shares is £6; but upon shares being taken to complete a purchase, it is *2l. 2s. 0d.*, at which sum it was agreed they should continue until after the shareholders' meeting in January last.

"The minimum premium or discount upon purchased shares has been fixed by the directors at £55 per share for the fourth year."

Summary of the financial statements as appended to the report:—

"General Account, for the Third Year, ending Oct. 14, 1848.

Dr,

1847.	To cash, as per last account	£8329	17	1
1848.	Subscriptions	3650	16	6
*	Interest, entrance fees, fines, rules, transfers, &c.	590	0	7
	Forfeit on purchased shares	60	0	0
*	Arrears of subscriptions, fines, interest, &c.	100	16	0
	Cash advanced as a loan	4085	0	0
	Premiums as per last report	10626	19	5
	Premiums for 1848	4938	17	6
		£32,382	7	1

* The practice of throwing several items together to account for so large a sum as £590, as in the third line of the above debtor account, is unfair, and likely to become the subject of animadversion among the shareholders.

Cr.

Expenses for 1846-7	£204	11	3
Interest on loans (2 years)	65	4	0
176 shares advanced in 1846-47	21120	0	0
85½ ditto in 1848	10260	0	0
1848. Management *expenses*	77	18	2
Interest on loans	183	4	4
Ground rent and insurance	11	1	2
Arrears, as above	100	16	0
Cash with bankers	359	12	2
	£32,382	7	1

PROFIT ACCOUNT.

Dr.

1848. Expenses for three years	282	9	5
Subscriptions, ditto	11361	9	0
Interest, ground rent, and insurance	259	9	6
Arrears...	100	16	0
Loans	4085	0	0
Cash with bankers	359	12	2
Profit and bonus	15933	11	0
	£32,382	7	1

Cr.

By account as above	£32,382	7	1
	£32,382	7	1

"*Shewing:*

" Profit and bonus brought down, divided between 635 shares of £120 each	£25	2	0
" Subscriptions paid	18	0	0
" Estimated portion of each share cancelled in three years...	43	2	0"

The above account contains various errors, and the items are injudiciously mingled together. The profit 15,933*l.* 11*s.* does not in reality exist, as it is in great measure an ima-

ginary advantage, supposed to have arisen from the discount given by borrowers on their shares, and as such ought not to have appeared in the balance sheet.

We will not examine what would be found to be the actual value of the shares, supposing a proper calculation made, but simply remark, that the above furnishes ample evidence of the deficiency, arising from the expenses, which must exist towards the epoch of a society's termination, if they so considerably diminish even in three years the interest realised on the investers' subscription ; for the receipts from interest and fees including the forfeited shares altogether only amount to 650*l.* 0*s.* 7*d.*, of which 541*l.* 18*s.* 11*d.* has been absorbed by the expenses, leaving 108*l.* 1*s.* 8*d.* to be divided between 368 unadvanced shares, which is about 5*s.* 10*d.* per share, and is all the interest obtained for three years' subscriptions on each.

Such a result speaks for itself.

No. 3.

The ———— Society.

Established August, 1845. Original entrance fee, 2*s.* 6*d.* *present one*, £1 per share. Shares, £120. Monthly subscriptions, 10*s.* Redemption fee, 4*s.* per share.

In the first annual report published in November, 1846, the directors allude to the *success* which has attended the progress of this society :—

" There are 113 members, holding 211½ shares, and the total profits after deducting expenses, amount to 1096*l.* 17*s.* 9*d.* being 5*l.* 1*s.* 2*d.* per share ; which added to the subscription of £6 paid on each share, shows a profit of 11*l.* 1*s.* 2*d.* to be the progress made towards the realisation of each share."

The following are abstracts of the financial statements :—

"CASH ACCOUNT.

Dr.						
Subscriptions on shares				£	1258	10 0
Entrance and redemption fees, fines, rules, &c.					60	13 9
				£	1319	3 9
Cr.						
Expenses					66	14 9
Advances on 19½ shares	£2340	0	0			
Less premiums thereon	1106	5	0			
					1233	15 0
Balance with bankers					18	14 0
				£	1319	3 9

PROFIT ACCOUNT.

Dr.						
To expenses				£	66	14 9
Balance or profit of the first year					1069	17 9
				£	1136	12 6
Cr.						
Premiums on 19½ shares				£	1106	5 0
Subscriptions and fines in arrear					11	13 6
					1117	18 6
Balance in banker's hands					18	14 0
				£	1136	12 6
Profit brought down :—						
£1069 17s. 9d. divided by 211½ shares, gives				£	5	1 2
Subscriptions paid					6	0 0
Actual value of each share				£	11	1 2"

The above result is fictitious in consequence of the discount or premiums 1106*l.* 5*s.* 0*d.*, given by the borrowers on the nominal value of their shares, being entered as actual profit or cash realised. Instead of any *interest* having

been produced by the past year's business, we find that the expenses have even entrenched on the receipts from *subscriptions* :—

For the expenses paid amount to.....	£66	14	9
Less fees, fines, &c. to be received or in arrear	60	13	9
Leaving a deficiency of	£6	1	0

which divided among the 192 *unadvanced* shares, gives a deficiency of about $7\frac{1}{2}d.$ per share.

CHAPTER VII.

RULES FOR A PERMANENT BENEFIT BUILDING AND INVESTMENT SOCIETY.

Established pursuant to the Act of Parliament, 6th and 7th William IV, cap. 32.

£100 Shares. Monthly Payments (for 10 Years only), 13*s.* per share. Entrance fee, 2*s.* 6*d.* per £100 Share. Half-shares of £50, or Quarter-shares of £25 each, may also be taken. No Bidding for Shares, no Redemption Fee, and no Fines on withdrawal. The Law Expenses advanced to Members purchasing Property.

The First Subscription Meeting will be held on ———— *at Seven o'Clock in the Evening, at the* ———— *; and subsequently on the First and Third Monday in each Month, at the same Hour.*

I. *Name and Object of the Society.*

That this society shall be called the ————
Its object is to raise a fund to enable its members to receive an advance in full, of a share or shares, for the purpose of erecting or purchasing a dwelling-house or houses, or other freehold or leasehold estate in any part of England.

II. *Time and Place of Meeting.*

That the first meeting for the receipt of subscriptions and the transaction of the ordinary business of the society be held on ————at——o'clock in the——at ——— in the city of———; and that the succeeding meetings for receipt of share-subscriptions,

and advance-repayments shall be held on the first and third Monday in each month.

That the ordinary meetings of the society shall be held at the offices aforesaid, on the first and third Monday in each month, at 7 o'clock in the evening. That the directors shall have power from time to time to remove the said offices, and alter the time of meeting as they may see fit. That notice of any such removal or alteration shall be given to every member of the society. That the directors shall have power to hold special meetings of their body, and to adjourn their ordinary and special meetings, as well as all general and special meetings of the members of the society, as occasion may require.

That the business of the directors' meetings shall commence at 7 o'clock in the evening, unless upon subscription nights, when the same shall be deferred to 8 o'clock.

That an annual general meeting of the members shall be held on the first Wednesday in the month of ——— in each year, at which the directors shall exhibit a general statement of the funds, effects, liabilities, and accounts of the society, specifying in whose custody or possession the funds and effects shall then be, together with an account of all and every the sums of money received and expended on behalf of the society during the past year; such statement to be previously audited in manner hereafter mentioned, and countersigned by the manager, and a copy of such statement shall be supplied to every member on application to the manager.

That a special meeting of the members may be held on a requisition to the manager to convene such meeting; such requisition to be signed by at least five directors, or by ten ordinary members, which requisition shall state the object for which such special general meeting is required; seven days notice at least of which meeting shall be given to every member, stating the hour, place, and object of such special general meeting. That at such special general meeting no business shall be transacted not mentioned in the requisition calling such meeting.

III. *Share Subscriptions.*

That the shares shall be of the ultimate value of £100 each. Each member on admission shall pay an entrance fee of 2*s.* 6*d.* per share, and a monthly subscription of 13*s.* per share, for and during the full term of ten years, to commence on and from the first or fifteenth day of the month in which he or she shall be admitted.

Half shares may also be issued by payment of an entrance fee of 1*s.* 6*d.*, and a monthly subscription of 6*s.* 6*d*; and quarter shares also at an entrance fee of 1*s.*, and a monthly subscription of 3*s.* 3*d.* for the like period.

An allowance of sixpence in the pound will be made on all subscriptions paid in advance, for a period of more than six and less than twelve months. The directors shall have power to determine the amount of discount to be allowed on subscriptions paid in advance for a longer period: such discount, however, in no case to exceed 5 per cent. per annum.

IV. *Advances and Re-payments.*

The society will make advances to its members of any sum not exceeding £800, for terms of 5, 7, 10, 12, or 14 years, repayable by monthly or quarterly contributions, covering principal and interest, at the rates hereafter specified: *viz.*,

Repayments for a Loan of £100, *and interest.*—

	Monthly.	*Quarterly.*
For a Term of 5 years	£2 0 8	£6 5 0
„ 7 „	1 11 0	4 15 4
„ 10 „	1 3 9	3 13 1
„ 12 „	1 1 0	3 4 6
„ 14 „	0 19 1	2 18 9

When a loan is required for twelve years not more than three-fourths of the value of the mortgaged property shall be advanced thereon: nor more than two-thirds of its value, when the loan is taken for fourteen years.

[*For loans taken out for shorter periods than twelve or fourteen years, it will be for the Directors, on the advice of their surveyor and solicitor, to decide what proportion of the value of a property shall be advanced on the security of it. It is important that they should bear in mind that the risk of subsequent deterioration in the value of a security increases with the length of period of the mortgage.*]

No member will be allowed to receive an advance of shares exceeding the number he has previously subscribed for, unless he pay down the entrance fees, and continue to pay half the subscriptions on the whole number of shares required from the date of his being placed on the ballot list.

The following commissions shall be deducted from all advances made to members, and shall be appropriated to the management and contingent fund:—namely,

On Loans advanced for 5 years				£———	per cent.
,,	,,	7	,, ...	———	,,
,,	,,	10	,, ...	———	,,
,,	,,	12	,, ...	———	,,
,,	,,	14	,, ...	———	,,

[*The rates will vary with the locality in which the society is situated.*]

And that in consideration of the aforesaid commissions so allowed, borrowing members shall not be called upon to contribute any other sums towards expenses or contingencies excepting such fines, transfer, or other fees, as may be hereafter mentioned in these rules.

Members not being in arrear for subscriptions or fines, and having made payments during at least three months on their shares, shall be eligible to ballot for an advance of money, provided they apply in writing to the manager, on or before the 25th day of the month, stating the amount desired, and such member shall receive a notice of the next meeting for advance of money, at which meeting the names of those members having so applied for advances shall be written by the manager on separate pieces of paper, and placed in a box, which after being previously shaken together, the member whose name is first drawn from the box, by the chairman of the meeting, shall be entitled to receive

such amount as he or she shall have given notice for, (subject, however, to the discretion of the directors as to the sums to be then advanced), and should any surplus sum be then at the disposal of the directors, the member whose name shall be secondly drawn, shall be entitled to receive such surplus or any required portion thereof; and so on, provided that, should the member whose name is last drawn not be furnished with his required amount, the balance shall be reserved for him out of the first money applicable for such purpose, and of which he shall have due notice. All members having given notice for advances shall continue in the ballot until provided with money; and whether present or not, shall be bound by the proceedings of the meeting. The ballot for advances shall, in all cases, take place on the first Monday of the month, at a quarter past nine o'clock precisely, to the exclusion of all other business.

Any member entitled to an advance shall, within six weeks from the date of the ballot meeting, find a good and sufficient security by way of mortgage for the same, and in case of failure he shall be allowed a further period of six weeks to complete the same, provided he pay interest on the advance, at the rate of 5 per cent. per annum, to commence with the second six weeks so allowed him, at the end of which time his right to such advance shall be forfeited to the next member then on the list, unless he consent to make his repayments in respect of his awarded advance from that date.

Members entitled to advances shall furnish duplicate particulars of property proposed as security, in the form to be furnished by the manager at the offices of the society, and the security being accepted by the directors, who shall have been previously satisfied by the surveyor and solicitor, of the sufficiency of the security offered, and all other preliminaries being arranged, the money agreed to be advanced shall be paid over to the member. And in case the money is applied to the purchase of land, and afterwards to erect buildings thereon, the same shall be advanced by such instalments as the surveyor shall advise the directors.

The expenses of enquiry into title, and of survey of property

shall be borne by the member proposing the security, who shall deposit with the society a reasonable sum on account thereof, at the time the security is offered.

That the repayment for advances shall be made at the end of the first calendar month, or of the first quarter, (as may be agreed upon by the directors) next following the receipt of the advance or any portion thereof, and shall continue to be so made for the full period for which the advance may have been originally taken, unless the mortgage be previously redeemed; and that in all cases such repayments shall be due on the first or fifteenth day of each month, and be respectively made thereon, if they be days of meeting, or on the first subscription meeting thence ensuing.

That the directors shall, from time to time, have the power to regulate the amounts of advances, and the term and mode of periodical repayments according to the nature and condition of the property proposed to be mortgaged, it being the object of the society to accommodate the greatest possible number of members with advances.

Members desiring advances before they are entitled to them through the ballot, may be accommodated, provided they have been in the ballot list for at least six months, and provided the society can obtain loans from their bankers or others, to meet such purposes, and upon the members agreeing to pay the additional interest (if any) for a stated period, or until such advance shall be awarded to them by the ballot; and in such cases preference will be given to members who shall procure a loan for the society to meet their advances.*

The society will receive deposits of any sum not less than £5, allowing interest at 5 per cent., payable yearly.

V. *Fines for Non-payment of Share and Advance Subscriptions.*

Subscriptions for shares and advances shall be payable at the offices of the society on the first and third Monday in each

* See page 42 for remarks on this point.

month, between the hours of seven and nine o'clock in the evening, receipts for which shall be given on a card or book to be provided by the society, by one of the directors of the society then present, countersigned by the manager, and no acknowledgment otherwise given or taken shall be valid, unless the manager be unavoidably absent, when a minute of the directors shall be duly entered in their journal, authorising some member of the board to perform the duties of the manager on that occasion.

The fines for non-payment of share-subscriptions shall be at the rate of 6*d.* per share per month for each default, and so in proportion for half shares.

The fines for non-payment of monthly advance-repayments shall be at the rate of 1*s.* in the pound per month on the amount thereof, and upon quarterly repayments at the rate of 1*s.* 6*d.* in the pound for each month's default.

When the fines on unadvanced shares equal the amount paid in, the same shall be forfeited to the society.

VI. *Security for Advances.*

The mortgage deed shall contain full powers of sale, as a security for so much money as shall be therein expressed to be advanced and secured. In case the mortgagor shall fail, neglect, or refuse, for the space of four calendar months, to observe and perform all or any of his or her covenants for payment of advance-instalments, according to the terms and conditions of these rules and the said mortgage, as well as any fines inflicted for neglect of payment, on his or her part to be observed and performed, the manager shall send a notice in writing to such member so in default, calling upon him or her within two calendar months from the date of the last default of advance-repayments, to pay up the amount thereof, with all fines and other payments due in respect thereof; and that in case the member fail to comply with this requirement, that then the trustees named in the said mortgage, or the survivor or survivors of them, or the executors or administrators of the last survivor, or the trustees for the time being of the society, shall, on being so instructed in writing by the board of directors for

the time being, either with or without the privity or consent of the said mortgagor, his or her heirs, executors or administrators, or assigns, appoint a person, to be approved by the said board, to collect the rents of the premises thereby mortgaged; and having first made a demand upon the mortgaged premises for the amount of arrears then due and unpaid, shall at any time or times hereafter, absolutely sell all or any part of the said premises, either by public auction or private contract, and either together or in lots, and at one time or separate times, if desirable, for the most money that can be reasonably had or gotten for the same; and that every receipt of the trustee or trustees for the time being shall be a good and sufficient discharge to the purchaser or purchasers, paying his or their purchase-money, who shall not be obliged to see to the application of the same, nor be required to see whether any or what monies shall be due under such mortgage, or whether there has or has not been any breach on the part of any such mortgagor of the rules of the society, or of the stipulations of such mortgage deed, nor whether he or she has failed to pay any of the advance-repayments, fines, or other payments, either for the said space of four calendar months or for any other period; nor whether such trustees or trustee, or the executors or administrators of the last survivor of them, or the trustee or trustees of the society for the time being, have or have not authority for disposing of the premises comprised therein, but the possession of the title deeds and mortgage deed, and the written instructions of the board of directors shall be considered sufficient authority for the disposing of the said premises by the trustees: provided always, that the money to be produced from such rents and profits, or such sale or sales, as aforesaid, shall in the first place be applied in payment of all costs and expenses which may be incurred on account thereof, and in the next place to reimburse the society in the amount of advance-repayments then due and unpaid, together with all fines in respect thereof, and of the then value of the future repayments in respect of such mortgaged property, with interest on the aforesaid amount of arrears and fines, and the then value of such future advance-repayments,

at the rate of 7 per cent. per annum from the date of the first default: and that the present value of such future repayments shall be calculated from the date of such first default to the end of the term for which the mortgage was originally taken, discount being allowed at the rate of 6 per cent. on such future repayments to the end of the mortgage term, and upon the principle of repayments made at the end of each year; and in case the rents and profits of the mortgaged property, and produce of the sale thereof, after deducting expenses, be not sufficient to discharge the amount of such repayments in arrear, and the present value of the future repayments so calculated and interest thereon, the mortgagor so in default shall immediately pay the balance due thereon to the society; but that the trustee or trustees shall pay the surplus (if any) arising from the receipt of the rents and profits, and from the sale of such premises aforesaid, to the said mortgagor, his, her, or their heirs, executors, administrators, or assigns, or as he, she, or they may or shall direct: provided always, that in case any of the mortgagors named in any mortgage deed, or his, her, or their heirs, executors, administrators, or assigns, having obtained an interest in such property (so long as the said premises may continue in mortgage to the society), shall become insolvent, or be imprisoned for debt, or be made bankrupt, then such trustees or trustee, or the executors or administrators of the last survivor of them, or the trustees for the time being of the society, with the sanction of the board of directors for the time being, shall have full power and authority to take possession of the premises mortgaged, and let and manage the same, and collect the rents thereof, whether such mortgagor, or his heirs, executors, administrators, or assigns, be in arrear with his, her, or their payments, or not; and in case any of the premises mortgaged to the society be left incomplete, the trustees or trustee for the time being, under the direction of the board, shall have power to complete the same, and the money expended and laid out in so doing shall be considered as part of, and in addition to, the original mortgage; and the said trustees shall also, with the sanction of the board, have the option of selling and disposing of the premises mort-

gaged, either in their incomplete state or upon the same being so completed as aforesaid. That upon payment of all monies due upon such mortgage, pursuant to these rules, the trustees or trustee for the time being, shall, at the cost of the member or person requiring the same, endorse a receipt or acknowledgment for the same on the said mortgage, in the form annexed to these rules, according to the act 6 and 7 Wm. IV., cap. 32, sec. 5.

That during the continuance of a mortgage the member shall become actual tenant to the society in respect of his mortgaged premises, which shall be chargeable with the repayments in discharge thereof, as ordinary rent, and for any arrears of which repayments the society shall have power to distrain in the usual way.

That members holding advances upon quarterly repayments shall be considered to be in arrear of four months, when any quarterly repayment shall have remained unsatisfied for the period of one calendar month after the same shall have become due.

That no money shall be advanced by way of a second mortgage.

VII. *Fire Insurance and Ground Rent.*

That all property mortgaged to this society shall be insured, in pursuance of any covenant contained in the lease or deed under which such property shall be held, or as the directors shall determine; and the manager shall immediately effect the same in the names of the trustees of the society, in conformity with written instructions to be furnished to him by the solicitor: and, in case of neglect, the manager shall be fined twenty shillings; and he shall pay all premiums for insurance of mortgaged property as the same respectively shall become due, or be fined twenty shillings for each insurance left unpaid; and the persons on whose account such premiums for insurance shall be paid, shall, on demand, refund the amount so paid.

That the manager shall pay all ground rents chargeable on property mortgaged to the society immediately on the several amounts respectively falling due, or within such period as the

ground landlord may stipulate, or he shall be fined twenty shillings for each neglect; and the member on whose account such ground rent shall be so paid, shall immediately refund the amount thereof, with and in addition to his next monthly advance-repayments, and in default thereof, pay a fine of one shilling in the pound on the amount thereof; and until such ground rent and fine be paid by the member, the same shall be deducted from the amount of advance-repayments already paid by him, which shall be liable to fines the same as if the portion of advance-repayments had not been already paid; and the same rule shall apply to the non-payments of fire insurance premiums.

Whenever any property mortgaged to this society shall receive any damage from fire or any other cause, for which the insurance company may be liable to give compensation, the trustees for the time being of the society shall receive the amount of damage so sustained from the insurance company, unless by the power usually granted to certain insurance companies, the insurance company, by which such property has been insured, shall cause the premises so destroyed or damaged to be rebuilt or repaired; and in such case, the surveyors of the society shall inspect the premises so rebuilt or repaired, and furnish to the board of directors their report of the sufficiency or insufficiency of such re-erection or repairs by the insurance company, and in case the same be not completed to the satisfaction of the directors and the surveyors, the board of directors shall be empowered to take the necessary steps to have such re-erection or repairs of the said premises perfected by the insurance company, to the extent of the insurance effected in the policy of insurance. But in case the trustees for the time being shall receive the amount of such damages in money from the insurance company, then the board of directors shall cause the said premises to be rebuilt or restored, under the superintendence of the surveyor of the society, at a cost not exceeding the amount of such monies so received from the insurance company, unless the member interested in the property shall furnish additional funds requisite to cover any further outlay he may require.

VIII. *Power to sell, redeem, and exchange mortgaged property.*

That if any member who shall have obtained an advance shall be desirous to sell the property mortgaged, it shall be lawful for the purchaser on becoming a member of the society, to take the property subject to such mortgage, and thenceforth to become answerable for the payment of all advance-repayments in arrear, and fines then due thereon, as well as for all future advance-repayments and fines thereon from time to time falling due in respect of such mortgaged property, an account of all which advance-repayments and fines then due and unpaid, shall be made up and acknowledged (in writing) by the person proposing to receive such liabilities and property in mortgage, which said account shall be duly signed by the person so becoming a member, in the presence of the manager, solicitor, or one of the directors of the society ; and provided the sanction of the directors be given to such transfer, the trustees for the time being shall, at the request and cost of the member so transferring his interest in the mortgaged property, then release him from all future responsibilities in respect of such property so transferred.

That a transfer fee of five shillings for each advanced share shall be payable to the society after a mortgage has been made.

That if any member shall be desirous of having his property discharged from the mortgage under which it may be liable to the soicety before the expiration of the full term for which it was originally taken, he shall be allowed to do so on giving a notice of two clear calendar months prior to the ordinary meeting at which the redemption of such mortgage is proposed to be completed; and that on payment of all advance-repayments, and any fines due in respect thereof up to the time of the redemption of such mortgage, and of the present value of the future repayments calculated to the end of the original term, and discounted after the rate of 6 per cent. interest, as laid down in Rule 6, together with a redemption fee of 5*s*. per cent. on the balance so due, the trustees for the time being shall at the request of the directors, and at the cost of the member, cause to be

endorsed on the mortgage deed, a receipt or acknowledgment for the full payment of the amount secured in such mortgage in the form annexed to these rules, according to the act, 6 and 7 Wm. IV., cap. 32, s. 5.

That members giving notice of a redemption of a mortgage, shall be liable to the usual fines for nonpayment of the advance instalment up to the time such redemption shall be completed.

Members may, on payment of the expenses of survey, and other necessary charges, and a fee of 5*s.* for each advanced share, exchange a mortgage already taken to any other property of adequate value, provided no alteration be made in the original mode of repayments; and with the consent of the directors, members may also discharge any portion of a property from the liability of a mortgage.

IX. *Members transferring or withdrawing shares.*

Members not having obtained advances, and upon payment of arrears, may, on giving notice to the manager, of at least seven days prior to the first and third Monday in each month, be at liberty to transfer his or her shares, and the entire interest therein, on payment of a transfer fee of 2*s.* per share to the society; but in case any award of advanced shares has been made to the member, a transfer fee of 20*s.* per share shall be chargeable thereon; but in such case the transfer must be made to an existing member of the society.

[*In consequence of members sometimes making it a practice to apply for advances (when they have no intention of purchasing property) in the hope that, if successful in their application, they may make a profit by transferring the right of advance to another member: it is expedient to apply a check to such a practice, by charging a fee of proportionate amount from the party transferring.*]

The agreement of transfer shall be made and executed by the member, and duly attested by the manager, or one of the directors.

In case of the death or insanity of a member before receiving an advance, and upon the application of the wife, widow, or legal representatives of such deceased or insane member, to withdraw from the society, the wife, widow, or such representatives, shall be entitled to a preference before ordinary members, and to withdraw at any time, and to receive back, at the time fixed by the directors for such repayment, the amount of subscriptions or shares which such deceased or insane member may have paid to the society, less all fines due and unpaid by the insane or deceased member at the time of his seizure or death, with accumulations thereon, as hereinafter provided.

Members not having received an advance, who may be desirous of withdrawing from the society, must send a written notice to the manager of their intention so to do, at least ten days before the first Monday in each month, and that such withdrawals will be regulated as follows:—No withdrawals to be permitted unless in case of death or insanity, under twelve months from the date of each member's admission respectively, provided always, that payment of any debts due from the society shall, if required, be made before any share can be withdrawn; and that under all circumstances, the sums paid for withdrawals shall in no case exceed the income derived from the repayments of shares already advanced to members; and that withdrawn shares (not wholly subscribed for) shall be paid out according to the number of applicants on the list kept for that purpose, each member receiving the due proportion of his subscription paid in, so that all such members shall be simultaneously accommodated with a portion of their shares. And that in case the expenses of the society, and any loss sustained by it, exceed the monies appropriated to the management and contingent fund, all withdrawn shares shall be chargeable with a due proportion of such excess according to the number of years such shares shall have been in force, and that this rule shall equally apply to members cancelling their unadvanced shares previously to taking a loan from the society.

That next after payment of withdrawn shares to deceased or lunatic members, the persons holding shares paid up for full ten

years shall have a preference, which shall be paid out in full and in rotation, according to their respective subscriptions being fully discharged, subject, however, to the aforesaid deduction for excess of expenses or losses (if any); and that interest, payable annually at the rate of 6 per cent. per annum, be allowed to such members holding paid up shares, on the amounts respectively due to them, such interest to commence from the date of the realization of their shares respectively.

That subject to such provisions aforesaid, the sums payable on *withdrawn shares* (upon which all subscriptions and fines shall have been duly paid) shall be according to the following table, and provided a member withdraw his shares in the course of a year, the sum set down at the close of the last year shall be payable, with interest thereon at 5 per cent., and also any monthly subscriptions subsequently paid; and so in proportion for half, or quarter shares—*viz.*

At the end of the		On Half or £50 Shares.	On Whole or £100 Shares.	
First year	Without Profits.	£3 18 0	£7 16 0	Without Profits.
Second year		7 19 10	15 19 9	
Third year		12 5 10	24 11 9	
Fourth year		16 16 2	33 12 4	
Fifth year		21 10 11	43 1 11	
Sixth year		26 10 6	53 1 1	
Seventh year		31 15 0	63 10 1	
Eighth year		37 4 9	74 9 7	
Ninth year		43 0 0	86 0 1	
Last or Tenth year		50 0 0	100 0 0	
		With Profits.	With Profits.	

Where any subscriptions or fines shall remain due and unpaid on any withdrawn shares, or parts of shares, at the end of a year for a period not more than four months, the amount of such unpaid subscriptions and fines shall be deducted from the sums set down in the above table, and the balance thereof shall

be payable to the member, such fines to be calculated up to the first day of the month on which the applicant for withdrawals is placed on the list kept for that purpose. But where the subscriptions or fines shall be in arrear for more than four calendar months, no further interest shall be allowed on the previous payments, until the arrears are settled.

Members on receiving advances may continue to hold their shares or cancel the same; in which latter case, the sum then due in respect thereof will be passed to the credit of their loan account, and security will be taken only for the balance.

X. *Members Dying, becoming Lunatic, or Insane.*

That no benefit of survivorship shall be claimed by the members of this society; but upon the death of members during the term of their subscription, their legal representatives shall succeed according to law to their shares and interest in their property mortgaged to the society, (if any), and shall enjoy the same privileges, and be subject to the same payments, fines, &c., as the deceased shareholder would have had, had he been living. But in case such shares or interest in mortgaged property devolve upon more than one legatee, or more than one executor, or administrator, the right of voting of such legatees, or executors, or administrators, as members of this society, shall be restricted to one of them respectively, either to be agreed upon by themselves, or in case of dispute to be determined by the board of directors.

That in the event of any member being declared lunatic, or of unsound mind, no fines shall be payable for arrears of subscriptions, fines, &c., until a committee or guardian of such afflicted member be legally appointed, or until some relative or friend shall undertake to discharge his said subscriptions, fines, and other payments to the society; provided, nevertheless, that on an application being made by the directors to some relative or interested friend of the afflicted member, to see to the due payment of his or her subscriptions, advance instalments, and other payments, such application shall be deemed a reasonable cause why such fines should be thenceforward enforced, and that

the directors shall then be fully authorised in taking the ordinary steps for the recovery of all arrear payments whatsoever, which may be then due in respect of the shares or mortgaged property of the afflicted member, and if requisite, to proceed to the sale of such property, in the usual way; and that upon the legal appointment of a committee or guardian of the afflicted member, the society shall, if so required, but at a time fixed by the directors, pay over to the committee or guardian of such afflicted member, the amount of actual share subscriptions paid by such members, less the fines due up to the time of his lunacy, or unsoundness of mind, and the usual deduction towards the expenses of management as in case of an ordinary withdrawal of shares; and in case such afflicted member may have received an advance of shares, the committee or guardian may be allowed to dispose of such property, or to redeem the mortgage thereon, or exercise any other privileges thereof as may pertain to the said member; and in case of a transfer of shares or mortgaged property, or of a redemption of such property in consequence of such lunacy or unsoundness of mind, the transfer and redemption fees chargeable in respect thereof, shall be reduced one-half from the usual rates.

XI. *Expenses of Survey, Mortgages, &c.*

That the expenses of every survey, valuation, mortgage, and supervision by the surveyor of the society of any buildings erected upon property previously mortgaged to the society, shall be borne by the members respectively applying for or receiving an advance, and excepting the cost of stamps, registration, and travelling expenses paid out of pocket at the time by the solicitor or surveyor, may be repaid by an additional and proportional monthly subscription extending over a period not exceeding twelve calendar months, provided the member agrees to allow a fee of 1*s.* in the pound on each additional monthly subscription; and in case of a failure of their due payment, the same shall be chargeable on the mortgaged property, and be deducted from the advance instalments.

XII. *Management and Contingent Fund.*

All fines, fees, and commissions whatsoever mentioned in these rules, shall be passed to a management and contingent fund, and so also a deduction at the rate of five pounds per cent. per annum from the amount of income derived from the repayment of advanced shares. [*See the Appendix, for the explanation of the principle of this and similar deductions.*]

That the expenses of management, and any losses that may be incurred by the society, shall be defrayed out of the management and contingent fund; but if such expenses or losses be greater than the sum of such management and contingent fund, the excess shall be borne by the holders of unadvanced shares, not wholly paid up for ten years, in proportion to the number respectively held by each, and according to the number of years the same shall have been in force.

That at the end of the first five years, and every subsequent year, an estimate of the management and contingent fund shall be made, and if, after all losses and expenses shall have been satisfied, any surplus profit remain, the same shall be appropriated thus :—

One-third to a permanent guarantee fund to meet future contingencies;

And the other two-thirds to the holders of all unadvanced shares not then in arrear for subscriptions and fines, in proportion to their shares held, and to the number of years they have been respectively in force, such bonus to be paid to the members on the completion of the 120 monthly subscriptions on their shares during ten years. No portion of this bonus to be paid to members withdrawing previously.

After the society has been 10 years in existence, it shall be lawful for the members, at a special general meeting summoned for the purpose, with the advice of an actuary, to alter the above proportion in the division of surplus profits.

That the expenses of all special meetings of the members shall be borne by the members subscribing the requisition, unless the directors determine the importance of the occasion to be such as to render their payment by the society just and reasonable.

That each member on admission shall pay sixpence for a copy of these rules.

XIII. *Registers of Members, Shares, &c.*

That a register be kept, in which shall be entered the christian and surname, profession, trade or business, and the place of abode of every member of the society, and as often as any member shall change his or her place of abode, he or she shall within 14 days give a notice thereof to the manager, or forfeit 1*s.* 6*d.* for each neglect. That on such notice being given, the alteration will be duly entered in such register; and all notices shall be deemed duly given by putting the same into the post office, addressed to the member according to the last entry on the register.

That a register of every member of the society be also kept, in which shall be entered the number and numerical order of the shares held by him, her, or them, the date of entry, transfer, or cancelling of the same, and any other details deemed necessary.

XIV. *Audit of Accounts.*

That at the first meeting of the society, two auditors shall be chosen, one by the directors and one by the members present, for the purpose of auditing the accounts of the society, prior to the annual general meeting. That the future appointments of auditors shall be made at the general annual meetings, except in the case of death during the year, when the vacancy shall be filled at the next monthly meeting by the directors and members respectively present. That the auditors attending shall receive 21*s.* each, as a remuneration for their services. That a consulting actuary shall also be engaged to make an investigation of the accounts of the society at the end of each half year, to whom also all questions as they arise relating to the value of shares, redemptions of mortgages, &c., shall be referred. That the report of the actuary shall be countersigned by the auditors, and shall be read at the annual meeting.

XV. *Arbitration.*

That in case of dispute arising between the society and any

member thereof, or the legal representatives of any member, reference shall be made to arbitration, pursuant to 10 Geo. IV., cap. 56, sec. 27, unless such dispute can be amicably arranged by the directors and the member, or his legal representative, within fourteen days from the time such disputed matter shall be formally brought before the board. At the first meeting after the enrolment of these rules, five arbitrators shall be elected by the members present, none of them directly or indirectly connected with the society; and in case of reference to arbitration, the names of all the arbitrators shall be written on separate pieces of paper, and placed in a box, and the three whose names are first drawn by the complaining party, or some one appointed by him or her, shall be the arbitrators to decide the matter in dispute, whose decision shall be final; provided always, that the award of the arbitrators shall be made within one calendar month next after a notice of the reference shall be given by the manager to each of the arbitrators appointed to adjust the matters in difference, unless a consent in writing be given to both parties to an extension of the time. Each of the arbitrators so drawn and attending shall receive a remuneration of 10*s.*; and the costs of the reference shall be paid as the arbitrators shall direct. The party requiring the arbitration shall deposit with the treasurer 30*s.* for the arbitrators' remuneration.

XVI. *Officers.*

That for the conduct of the business of the society, the following officers shall be appointed—namely, three trustees, at most ten elected directors, a treasurer, surveyor, solicitor, two auditors, and a manager.

XVII. *Qualification of Members.*

That the holders of a share, half-share, or quarter-share, (advanced or otherwise) shall be deemed members, and as such be entitled to vote at all general meetings. Females and minors may be members, but shall not be eligible to hold any offices; nor shall minors during their infancy be entitled to vote on any question, or be eligible to receive an appropriation of advanced shares.

XVIII. *Receipt of Subscriptions.*

That all subscriptions for shares, advance-repayments, fines, and other monies whatsoever becoming due and payable to the society, shall be received only at the usual subscription meetings, during the hours of seven and nine o'clock in the evening, or at such other times as the board of directors may hereafter fix for that purpose. That all monies so received at such subscription meetings shall be delivered to the treasurer, and on the following morning be paid by him to the bankers of the society for the time being, and the book in which the entry of monies so paid, or the bankers' receipt in lieu thereof, shall on that day be deposited with the manager, who shall cause the same to be produced at the next meeting of the directors.

That all subscriptions for original shares shall become payable monthly in advance from the first or fifteenth day of each month; and all repayments for advanced shares retrospectively due monthly or quarterly after the date of advance, such dates to be restricted as far as possible to the first day of each month.

That the banking account shall be opened in the names of the trustees for the time being. That all cheques must be signed by at least one trustee, and countersigned by the chairman of the board of directors and the manager. That all payments exceeding five pounds be made by cheques on the bankers; and that for the payment of current petty expenses, the manager shall from time to time receive a cheque of ten pounds, which shall be duly renewed on a proper account of his former payments to the amounts of the last cheque received by him, being made to and allowed by the board.

XIX. *Mode of Voting.*

That all elections and questions shall be decided by a show of hands, or by ballot, if demanded. No member to have more than one vote; and in all cases of equality of votes, the chairman shall have an additional or casting vote. But no member shall be allowed to vote on any question affecting his individual interest or conduct.

XX. *Dissolution of the Society.*

That no dissolution of this society shall take place, unless its affairs be deranged, or its principles prove inadequate to promote its objects, or its funds be insufficient to meet the claims upon them, or from any other such cause, rendering the dissolution absolutely necessary, and then only in pursuance of the provisions of the Act 10 Geo. IV., cap. 56, sec. 26, and any member in any way attempting to promote a dissolution of the society, but for the causes before named, shall forfeit all his monies, benefit, and interest therein, and be forthwith expelled the same.

XXI. *New Rules and Alteration of Rules.*

No rule herein contained, or any rule hereafter to be made, by virtue thereof, shall be altered, rescinded, or repealed, unless pursuant to 10 Geo. IV., c. 56, sec. 9, at a general meeting, convened for that purpose; nor shall such new rule affect the fundamental principles of the society, but shall apply only to an explanation of the present rules, or to facilitating the operations of the society.

XXII. *Construction of Rules.*

That in the practical application of these rules, or any rules hereafter to be made by virtue thereof, the construction put upon them by the board of directors shall be final and conclusive. That a word in the singular number shall be applicable to the plural; and the term "his" or "her" shall apply to a "female" as well as "male," unless there be something in the subject matter or context repugnant to such construction.

XXIII. *Manager.*

That ———————— be appointed manager of this society.

That the manager shall receive whatever salary the directors may think proper, provided the same do not at any time exceed £400 a year.

That if the manager shall neglect to attend any meetings of

the society at the time named for the commencement of such meeting, without shewing sufficient cause to the directors then present, he shall be fined five shillings. He shall enter minutes of all resolutions in the rough minute book; the same shall be fairly copied into another, to be read as part of the business of the next meeting; both to be signed by the chairman. He shall keep the accounts in order, in proper books to be provided for the purpose, shall send all circulars, and conduct all the correspondence of the society.

XXIV. *Trustees.*

That the trustees shall be *ex officio* members of the board of directors, but in no wise interested in the funds, effects, or property of the society, and that they shall continue in office during the pleasure of the board of directors. That in case the trustees first appointed, or any or either of them, or any future trustee or trustees to be appointed, as hereinafter provided, shall die, or be desirous of resigning, or be discharged from, or shall become incapable of acting in the trusts in him or them reposed by these rules, or be guilty of any gross neglect or improper conduct (of which the directors shall be the only judges), or shall remove from ———————— to a distance of more than ten miles, or cease to have a place of business in ————————, so that the performance of their duties may become inconvenient to them, or that if a difficulty of access to them shall impede the business of the society, or if they shall become bankrupt or insolvent, the manager shall immediately convene a special meeting of the directors, and the directors shall hear and determine thereon, and may thereupon remove such trustee or trustees; and as often as any new trustee or trustees shall be elected or appointed, the trustee or trustees so removed shall cease to be a trustee or trustees, and shall be incapable to act after such declaration by the board of directors of his or their incapability to act as a trustee or trustees shall be notified to him or them, if such an intimation can be conveyed to them, or after the appointment of a new trustee or trustees shall have taken place; and after

every fresh appointment of a trustee or trustees, the resolution of appointment shall be signed by the chairman of the directors for the time being, or of the chairman of the meeting at which such appointment shall be made, by two members and the manager, and the same shall be duly entered on the minutes of such meeting; and the estates, monies, securities, funds, deeds, papers and property of the society shall at once become vested (without any assignment) in the continuing and newly appointed trustee or trustees; or should the trustee or trustees so resigned, incapacitated, or discharged, be out of the kingdom, or no means of communication can be had with him or them, then the removal of him or them by the board of directors, and the appointment of a new trustee or trustees in his or their stead, shall be likewise sufficient to vest all such estates, monies, securities, funds, deeds, papers, and property of the society, and all other matters pertaining thereto, in the continuing and newly appointed trustee or trustees. In case of a vacancy of office from any cause whatever by any trustee or trustees first appointed, or to be hereafter appointed by virtue of these rules, the appointment of a new trustee or trustees shall be made at the next monthly meeting by the members then present, providing a notice of such intended appointment can be sent to every member seven clear days before such meeting, or at the annual general meeting, if such vacancy take place within fourteen days previous to the same. That all deeds, writings, and securities to, and from the society, shall be made and taken in the names of the trustees or trustee for the time being, and shall be deposited with the bankers of the society, to be appointed by the directors, or with other persons as they may deem fit, in a box, having three different locks and keys, one of which shall be kept by a trustee to be named by the directors, one by the chairman of the directors, and one by the treasurer. The manager shall furnish to the Trustees an inventory of the contents of such box, and retain a duplicate thereof for the use of the directors. In case it shall be necessary or expedient to bring or defend any action, suit, or prosecution, at law, or in equity, touching or concerning the property or

assets, rights or claim of this society, or touching, or concerning the breach or non-performance of any of the articles, matters and things herein contained, or of the conduct of any member or officer of this society, the same shall be brought or defended by, or in the names or name of the trustees or trustee for the time being, and he, or they shall be indemnified from all loss or damage to be by him, or them sustained in consequence thereof, but no such proceedings shall be taken or defended until the approbation of a majority of the directors present at a special meeting, to be convened for that purpose, shall be first had and obtained. The trustees for the time being may, at the request of the directors, borrow and take up at interest any sum of money from any banker, or other person, as occasion may require, to procure which the trustees may give their own personal security, and they shall be indemnified in respect thereof out of the future receipts of the society. That the trustees or trustee for the time being, shall do no act in their official capacity, but by the written order of the board of directors, such order to be signed by the chairman of the meeting at which such order is made, and to be attested by the manager.

That ———— ———— be hereby appointed trustees of this Society.

XXV. *Directors and Treasurer.*

The elected directors shall be members, all of whom shall go out of office every year, but be eligible for re-election. The future election of Directors shall take place at the annual general meetings, except in case of death during the year, when any vacancy shall be filled up by the board. That if any director shall become bankrupt, be declared insolvent, or resign, his office shall become vacant, and if, during the year, the vacancy shall be filled up by the board as in case of death. The directors shall annually appoint out of their body a chairman, deputy-chairman, and treasurer, and, in the absence of either chairman or deputy-chairman, the directors shall appoint a chairman for the several meetings. That one of the directors (in rotation)

with the treasurer and manager, shall attend the meetings for the receipt of money, within the hours specified in these rules, or at such other times as the directors may think fit. The qualification of a director shall be holding of at least one *unadvanced* share. Each director shall be paid 6s. 6*d.* for each attendance at an ordinary subscription or special meeting: the chairman shall, in addition, receive 5*s.* extra. That the Treasurer attending the receipt of subscriptions shall receive 5*s.* each time for his services. That the directors may divide themselves into rotas, or committees, for the conduct of the business, as they may think fit, (such committees or rotas to be open to the other members of the board,) provided however, no rota shall continue longer than three calendar months at one time, without some change of members. That for the transaction of general business three elected directors shall form a quorum. The board shall meet at least twice every month, and the date and place of the last meeting having been read from the minute book, the bank-book shall be exhibited, (or in lieu thereof, the banker's receipt), and the amount deposited since the last meeting declared and entered as the first minute. The board shall from time to time inspect the books kept by the manager; and the directors, or three of them, shall have power to call a special meeting of the board at any time, by giving two clear days' notice, and stating the object for which it is called. In case the requisite number of directors shall not attend, the manager shall have power to adjourn the meeting to some other time. In case of equality of votes, the chairman shall have an additional or casting vote. No director shall be present during the discussion, or at the decision of any question affecting his own interest or conduct. Any director failing to attend his rotation at the receipt meetings, or to procure a substitute, shall pay a fine of 2*s.* 6*d.*, or if he fail to be present within ten minutes after the appointed hour, he shall forfeit one shilling.

That the board of directors shall consist of the trustees, and of not less than 6, nor more than 10, elected members.

That the board of directors shall have power to appoint

agents to receive applications for shares, and to pay them such compensation by way of commission on all shares introduced by them, as the board may deem fit.

That the following gentlemen be directors of this society for the ensuing year, with power to increase their number within the before-mentioned limits:—namely, Messrs. ————————

XXVI. *Architect and Surveyor.*

That Mr. ———————— be hereby appointed architect and surveyor to this society.

That for every valuation and survey of property within three miles of ———————— the following fees shall be allowed:—

Where the sum advanced does not exceed £150, one guinea; and above that sum at the rate of 10*s.* 6*d.* for each additional £100 borrowed. And if the distance exceed three miles, but not more than ten miles, one shilling per mile (one way only) extra shall be charged; where, however, any greater distance be required, such additional charge shall be allowed as shall be agreed upon by the board and surveyor.

In all cases where the architect and surveyor is required to supervise the erection of any buildings on behalf of the society, the remuneration shall be specially agreed upon by himself and the board.

XXVII. *Solicitor.*

That ——— be hereby appointed solicitor to this society.

That the solicitor shall transact all the legal, equitable, and conveyancing business of the society; and if any dispute arise with reference to his charges, the case shall be referred to two members of the legal profession, one chosen by the board or member interested, and the other by the solicitor; such referees, before proceeding to arbitrate, to appoint an umpire, in case they should disagree; the award of such arbitrators or umpire to be final and conclusive.

XXVIII.

That neither the solicitor, surveyor, or manager be removed

from their respective offices, except for misconduct or inability, and then only by a majority of at least three-fourths of the directors, who, in case of a removal or resignation of such officers, shall proceed to elect other and fit persons in their stead.

XXIX. *Indemnity to Officers.*

That the trustees, directors, and all other officers of the society shall be, and are hereby, indemnified and saved harmless out of its funds and property, from and against all losses, costs, charges, damages and expenses, which they may incur or be put unto, in or about the execution of their respective offices, trusts, and services; and none of them shall be answerable for any act or default of any other of them, or for the insufficiency or deficiency in the title or otherwise of any security whatsoever which shall be taken for the repayment of any advance, unless the loss arising by such means shall happen through their own neglect or default; nor shall they be liable for any banker, broker, or other person with whom the trust monies shall from time be deposited for safe custody, investment, or otherwise, nor for any involuntary loss, misfortune, or damage whatsoever, which may happen in the execution of their respective offices, services, or trusts, or in relation thereto.

} *Members.*

Manager.

SCHEDULE OF FORMS.

A

To the Manager of the _____ Benefit Building and Investment Society.

Sir,—I send you the following particulars of certain premises according to Rule IV., page 6.

Name _____

Address _____

No. of Certificate _____

Date _____

Situation and extent of property, number of rooms, extent of garden, &c.

Is the property freehold or leasehold?
If leasehold, the number of years unexpired?
If original lease, underlease, or assignment of lease?
Ground rent per annum?
When payable?
To whom, name and address?
Taxes, rates, &c., their amount respectively?
Does the tenant or landlord pay the rates and taxes?
Insurance, date of payment, name of office?
Gross rental per annum?
If unoccupied, what is the fair rent?
Is the rental paid weekly, monthly, quarterly, or held on lease?
Amount of advance required?
Is the property subject to prior mortgage?
If so, to what amount?
Is the applicant solvent? Ever been bankrupt?
Is the applicant free from any judgment or other encumbrance likely to effect his real estate?
Is the title good of such premises?
Have any of the covenants in the lease been violated?

B

To the Manager of the ———— Benefit Building and Investment Society.

Sir,—I send you the following particulars of certain buildings which I am desirous of erecting.

Name _____
Address _____
No. of Certificate _____
Date _____

Description of building, to be accompanied with plans.

Where to build?
Leasehold or freehold?
Ground rent per annum?
Covenants of lease?
Amount required?
By what instalments, and how often?
Has the applicant ever been bankrupt or insolvent, or has he any encumbrance registered so as to affect his estate?

C

To the Manager of the ———— Benefit Building and Investment Society.

Sir,—I send you the following particulars of freehold land that I am desirous of purchasing.

Name _____
Address _____
No. of Certificate _____
Date _____

Description and extent of property.

Where situate,—parish, county, &c.?
The value per annum?
By whom is the land held?
To what use is the land to be applied by applicant?

D

Receipt to be endorsed on mortgage security.

We, the undersigned, the trustees for the time being of the within-mentioned ———— Benefit Building and Investment Society, do hereby acknowledge to have received of and from the within-named ———— his heirs, executors, administrators, and assigns, all monies intended to be secured by the within written deed.

As witness our hands this —— day of ———— 18—.

E

Form of transfer.

I, ———— one of the members of the ———— Benefit Building and Investment Society, in consideration of ——— paid to me by ——— do hereby assign and transfer to the said ——— his (or her) executors, administrators, and assigns, subject to the payments, rules, and regulations, prescribed by the society. And I, ———— sanctioned by the board of directors, do hereby agree to accept the said share (or shares) subject to the same payments, rules, and regulations.

As witness our hands and seals, this —— day of ———— 18—.

I hereby certify that the foregoing rules are in conformity to law, and with the provisions of the statute 6 and 7 Wm. IV., cap. 32.

The Barrister-at-Law appointed to certify rules of savings' banks.

London, 24th June 1848.

Copy kept, pursuant to 9 and 10 Vict., cap. 27, sec. 12.

Actuary's certificate.

I hereby certify that the rates of the ———— Benefit Building and Investment Society are founded upon equitable and sound principles, and may safely be adopted for its use.

Actuary.

CHAPTER VIII.

ON LIFE OR FIDELITY ASSURANCE APPLIED TO BENEFIT BUILDING SOCIETIES.

SECTION I.

As regards Borrowing Members.

THERE remains one circumstance in connexion with the operations of Building Societies, which more particularly deserves the serious consideration of those members, who have borrowed money for the purpose of purchasing a house or other property. It has been explained that, when an advance is obtained by a member, a mortgage of the property purchased with it is given by him to the society, for a specified number of years, as security for his making, during that time, certain fixed periodic payments, by which the loan is to be repaid with interest.

If the borrower survive the term of his mortgage and complete the redemption of his property, he will in most cases have thus secured an unincumbered provision for his family, and all is well. But if he die before this satisfactory result is attained, unless his successors can continue the redemption payments for whatever number of years remain in the agreement, the Building Society is under the necessity of foreclosing the mortgage and re-selling the property, in order to recover the remainder of the debt. The late borrower's family consequently find themselves suddenly deprived of a provision on which they had calculated; and whatever sum they may recover from the

sale of the house after complete payment of the society's claims, it would, under such circumstances, be but small in comparison with the advantage, which had naturally been expected by them before his death.

This difficulty in the position of the borrower can only be surmounted by the application of Life Assurance, which alone affords the certainty of monetary payments adapted to the contingencies of human life. It is exactly one of the cases that Life Assurance is specially prepared to meet. The contingency to be provided against being: the chance of a given life dying before the expiration of a given number of years.

Were the borrower's debt to remain undiminished until the end of the specified time, and were that time a *fixed* number of years, then by taking out an ordinary *Temporary policy* on his life for that period, equal to the amount of his debt, he would secure the necessary sum payable to his family in the event of his decease at any intermediate time. But in consequence of the claim on the property diminishing every year, and in fact every month, the policy can, at the option of the assured, be made of such a kind as to adapt itself to the decrease, in various ways more advantageous to him, and suited to each particular case.

To persons unacquainted with life assurance transactions, it may be explained that policies are generally denominated *whole-life* or *temporary*. If the policy be effected for the *whole of life*, the assurer pays during that time a certain annual premium, varying with his age at entering, in consideration of which the company undertakes to pay the amount assured, whenever his death takes place; so that some day or other his family are sure to be thus benefited. In *temporary policies*, the society merely guarantees the payment of the amount assured, provided the assurer die within the number of

years for which it is taken out. As, however, the risk of the assurance company from the chance of such an event is for most ages considerably less than in whole life policies, the temporary annual payments are also considerably smaller. But on the other hand, if the person assured *survive* the period for which the assurance was effected, he receives from it no further benefit beyond the satisfaction which he may have experienced during the past, arising from the certainty that his family were completely protected from the then existing chance of loss.

Before examining the various modes of assurance which have lately been suggested, we may remind the reader that in the preceding sections of this work, it has been explained, that in most terminating societies there exists considerable unwillingness on the part of the directors to allow the redemption of mortgages, from the great inconvenience which arises in the latter years of a society, if a sum of money be returned on its hands, for which a *re-investment* may not be easily found. If, therefore, in consequence of the death of a borrower, or from any other cause, a redemption be permitted, it is required to be on such terms as will secure the association from loss, and the amount which, according to the rules of compound interest, would be considered a fair composition for the remainder of the debt of a deceased borrowing member, might not always be accepted as sufficient by the directors, who would have to take into account the loss of interest likely to be produced by the absence of re-investment for the money returned, which loss if not obviated, must prevent the realisation of the results anticipated in their fundamental calculations.

This practical difficulty, among others, renders it impossible for a borrower to know beforehand the precise sum, which might be required from his family after his

death for the redemption of his mortgage; although of course he would be justified in expecting that it would be less than the amount originally borrowed. Again, another obstacle to the accurate determination of a borrower's liabilities arises from a circumstance peculiar to the mortgages effected in terminating societies, caused, as we have before mentioned, by the special provision, that the payments of the members shall not terminate, until the promised amount of each of the *unadvanced* shares held by non-borrowing members has been realised; and that, if from any cause there exist a deficiency in the accumulated funds of the association at the end of the specified term of its existence, all the subscribers, borrowers as well as non-borrowers, shall continue to make their payments, and the mortgages on property shall remain in force, for the necessary additional time, of which the duration cannot be calculated until the deficiency is discovered.

In *permanent societies*, these obstacles to the ready application of life assurance do not exist, as they are free from the practical objections above quoted; and in some instances also of the *terminating* societies, where they are formed on accurate and sound principles, arrangements can be made, by which a borrower may avail himself of the advantages offered by life assurance. In the present confused state of the affairs of most of the existing associations of this kind, it is impossible of course to offer any advice on the subject, which can meet each individual case, but attention may be drawn to several plans prepared by some of the well-established assurance companies.

These plans appear to be of two kinds: either the policy secures a *single* sum of money, to be paid at the death of the assured, and sufficient to clear off the debt, or the assurance company undertakes to *continue the subscrip-*

tions of the borrower after his decease, until the period of the expiration of his mortgage.

In the first plan, *three varieties of policy are suggested:—First,* that the borrower, if he can afford it, should effect an assurance equal to the amount of his loan by a *whole life policy.* He thus not only makes his family secure during the period over which his mortgage to the society extends, but, in the event of his surviving, also creates a further provision for them, payable at whatever subsequent time his death may occur. This plan is undoubtedly the most advantageous for his family, but it is generally found too expensive, as the borrower in most cases finds it nearly as much as he can manage with his limited means to pay his share subscriptions.

Secondly.—It is proposed that he should effect a *temporary policy* on his life, which shall commence at the time he obtains the advance, and be equal to the amount thereof. The term of its existence also is equal to (or perhaps, if thought safer, a few months longer than) the number of years over which the mortgage is expected to continue. It is then arranged, that at the end of each year the assurance company should allow him to diminish the amount of his policy, by a sum equal to the diminution effected in his debt to the Building Society, during each *past* year; thus maintaining it, nevertheless, large enough to meet its purpose during each *coming* year. By this arrangement the annual payments would of course receive a corresponding diminution, and the amounts, by which the policy is to be reduced from time to time, would be left undetermined, and at the will of the assured, in consequence of the impossibility of his ascertaining beforehand the sum which might be required, in the course

of the society's existence, to pay off the remainder of his loan in the event of his death; and although the extent of his debt at the *close* of each year, depends on practical contingencies undeterminable by theory, yet it is in the power of the assurer to ascertain the correct amount, relatively with the actual circumstances of the Building Society, by applying annually to the manager; moreover, as the rates of premium on policies of this kind, diminish every year, they become rapidly very small, and appear to be within the reach even of persons of very limited incomes.

Thirdly.—Some Life Assurance Societies have offered to issue *temporary policies*, diminishing by an unvarying *fixed* amount every year; the rates of premium decreasing accordingly.

For example: Suppose that in a 10-years Building Society, a member has borrowed £300—he is recommended to effect a temporary policy for £300, for the period of 10 years, diminishing by the fixed reduction of £30 a year.

This plan, however accurate in principle as a mere life-assurance question, is not at all applicable to the case of mortgages from Building Societies, whether examined theoretically or in its practical bearings: for the policy during more than half the period of its existence, would be insufficient to cover the debt.

When it was first put forth, two or three years ago, by the life assurance companies alluded to, its unsoundness was very ably proved by some of the periodicals which treat of these subjects, although not with the complete success of causing the directors to suspend its detrimental action. As, however, the subject is one of considerable importance, on account of the loss and future injury entailed on persons who may be tempted to assure, from the simple form and

apparent cheapness of the policies; we shall here examine it by an example:—

A man borrows £300 from a Building Society which is expected to terminate in 10 years, and whose shares are £120 each,—for this loan he requires 5 shares, supposing the present value of each share to be £60, and he has to pay a monthly subscription of five times 14*s.*, or 3*l.* 10*s.*, in all £42. a year. To secure the family of the borrower from liability, in case of his death before the expiration of the ten years, the assurance society recommends him to effect a temporary policy of assurance for ten years on his life, according to a scale given in their prospectus. By this scale the amount of the policy is diminished £10 per cent. every year, so that—

If the borrower died between the beginning and end of the 1st year, the policy would secure the payment of	£300
If he died between the beginning and end of the 2nd year, the sum payable would be	270
Within the 3rd year	240
4th year	210

And so on, diminishing £10. per cent. annually—the diminutions in the policy taking place at the *end* of each year.

To this circumstance attention must be given, as the object of these remarks is to prove, that the amount so secured, payable in the event of the death of a borrower, is not sufficient, the fixed diminution in the amount of the policy being too great during the first half of the years of existence of the policy and the debt to the building society. It has been explained in Chapter III., that the rate of interest involved in the calculations of a building society such as this, is 7 per cent., so that the current account of the borrower relative to the society will stand thus:—

First year—Principal or debt	£300	0	0
Interest at 7 per cent.	21	0	0
Total.....	321	0	0
Deduct paid	42	0	0
Leaving a balance due at the end of the 1st year.....	279	0	0
Second year.—Interest	19	10	0
Total.....	298	10	0
Deduct paid	42	0	0
Balance of debt at end of 2nd year...	£256	10	0

And so on year by year the balance due can be annually ascertained. The fact of the payments being *monthly* instead of annual will not materially affect the results.

Now, if the amount of the debt at the *end* of each year be compared with the corresponding remaining amount of the policy, it is seen that at the end of the first year the former amounts to £279., while the latter is only £270, being too small by £9. to meet the debt. Similarly at the end of the second year the policy is deficient by 16*l.* 10*s.* 0*d.*, and so on during more than the first half of the debt; hence, although as far as the assurance companies are concerned, policies may be safely granted, decreasing every year by the same fixed sum, yet they are evidently inapplicable to the case of the borrowing member of a building society, who ought himself to have the power of determining year by year the amount by which his policy is to be diminished.

The *Second System* of life assurance adapted to the requirements of a borrower in a Building Society, by which, in the *event of his death, the Assurance Company takes his*

place, and continues his monthly subscriptions, was conceived in consequence of the strong objections which exist to the effecting of life policies for *single* sums of money, from the practical difficulties that constantly arise in the equitable adjustment of the remaining amount, which the Building Societies are entitled to claim in repayment of a debt.

In the policy recommended in their stead, the assurance office undertakes, *in consideration of a fixed diminishing annual premium, paid to it by the borrower, to continue, from the time of his decease, the monthly subscriptions for which the house or property is liable, until the mortgage is cleared off.* The term of the annuity is taken as ending with the year, in which the society (if terminating) is expected to close, or for a few years longer. This plan, which has been adopted under the name of the "*Guarantee temporary annuity policy*," appears to offer additional security to the Building Society, at the same time that it renders the family of the borrower entirely free from liability or trouble of any kind.

To illustrate its application we will take the same example as before:—Suppose a person aged 30 borrows, in order to purchase a house, £300 at the commencement of a Building Society, which is calculated to close in 10 years, and whose shares are £120. He requires for this loan 5 shares, and has to make during the 10 years an annual payment of £42.

Now if the borrower die before the 10 years are expired, the house is liable to be seized for the remainder of the mortgage unpaid, unless his family can continue the monthly instalments,—but if he effect, at the same time with his loan, a guarantee temporary annuity policy on his own life for 10 years, securing the annuity of £42. a year, or 3*l.* 10*s.* monthly, payable in case of his death,

from that event until the expiration of the 10 years, his family is rendered free from any liability by a comparatively small annual outlay, which at his age 30 is as follows: *viz.*

1st year's payment	.....	£5	0	0
2nd ,,	.....	4	7	1
3rd ,,	.....	3	19	2
4th ,,	.....	3	10	5
5th ,,	.....	3	1	8
6th ,,	.....	2	12	1
7th ,,	.....	2	2	11
8th ,,	.....	1	12	6
9th ,,	.....	1	2	1
10th ,,	.....	0	11	3

From this it is seen that if, for example, the party die in the 4th year, he will have purchased an annuity of £42. a year for the 6 remaining years, by four payments amounting to 16*l.* 16*s.* 8*d.*

It is evident the principle of such assurances is the same whether the payments of the Building Society are 10*s.* a month during fourteen years, or any other amount; and it matters not whether the loan be effected at the commencement, or in any other year of the existence of a Building Society. All that the borrower has to consider is the amount of his annual payment, and the number of years he expects they will run over: with these facts he can ascertain what premium and what amount of policy will suit his purpose.

The principle of making the *annual premiums diminish* annually with the risk to which the assurance company is exposed, is obviously the correct one, and has been since adopted by several life offices.

Some new assurance companies have lately undertaken to grant policies, guaranteeing these temporary annuities,

at annual rates of premium, which do not diminish year by year but remain invariable. For instance: one of the prospectuses states that the assurance company will guarantee a reversionary temporary annuity of £10, in case of the death of a person aged 30 before the end of 10 years, in consideration of the annual premium of 13*s.* 10*d.* a year, and that at the age of 35 the same annuity, for 5 years, may be obtained for 8*s.* a year.

A few words will suffice to point out the danger of such an arrangement for the life office. In charging the *same annual payment* throughout the duration of a *diminishing* risk, the office is virtually substituting for payments, which ought to diminish year by year, their average amount. Thus, by the rates above given, the borrower aged 30, might assure the reversionary temporary annuity of £42 a year for 10 years by an invariable annual premium of 2*l.* 18*s.* 2*d.* payable throughout the term of the assurance. It is obvious, therefore, that during the *first half of the existence of the policy*, or the first five years, the office is receiving a premium much *too small*, to be in proportion with the risk incurred (which can be seen by comparing it with the rates in the example before given of *diminishing* premiums), and *during the second half* of the period, the converse takes place.

If the assured then die in the first half, the life office must experience a serious loss, since it will have to pay an annuity for the remaining number of years, towards which it will not have received an adequate amount of premium. And if he *survive* the first half of the period, it is clear that a direct incentive is offered to him at once to drop his assurance, because the premium he would have still to pay exceeds the advantage yet offered by the policy in case he should die during the remaining half of its existence; for, in the remaining 5 years the annual premium securing £42

a year is still 2*l.* 18*s.* 2*d.* But the same prospectus which we have quoted above states, that at 35 (his then age when 5 years have elapsed) a reversionary annuity of £10, can be purchased for 8*s.* a year, or the borrower can take out a new policy, securing £42 a year for 5 years, by an annual payment of 1*l.* 13*s.* 8*d.* In other words, supposing the borrower to *survive* the *first* five years, he would find that by dropping his old policy, and taking out a new one he could effect an *annual* saving of 1*l.* 4*s.* 6*d.*, a matter of some consideration to persons whose means are limited.

Hence the plan of an unvarying annual premium during several years exposes the society to loss, and then holds out an inducement to the assurer to abandon his policy, as he may effect another at rates considerably reduced for the remaining term of his mortgage, a circumstance which it would be idle to expect him to overlook.

In preparing tables on the above system for the assurance of a diminishing risk, it has perhaps been imagined that, because the analytical investigation produced a correct mathematical formula, by which the premiums could be calculated, it would still be sound if applied to practical purposes. Such is far from being the case in this instance, or indeed in many others of a similar kind, and a neglect of sufficient examination of the effect of practice applied to theory is probably the cause of the many unsound features of Life Assurance, which from time to time are met with in the prospectuses of different companies.

Section 2.

Life Assurance applied to Investers.

The preceding plans of life assurance have all had reference only to the requirements of *Borrowers* in building

societies. The advantages to be derived from its application can however be extended in a most beneficial manner to the *Investers* or non-borrowers, in such associations as are formed on the permanent principle suggested in Chapter IV, according to which an invester pays a certain monthly subscription for a given number of years, and at the end thereof receives the amount of the shares he holds.

If he *die* previously, his family are entitled to claim from the building society merely the amount of his past subscriptions and whatever interest may be due upon them, according to the regulations usually contained in the rules.

Now it is possible, supposing the shareholder to be an insurable life, to make his shares payable in full, at the *end* of the specified term of years if he is alive, or *sooner* to his family, in the event of his previous death. In the specimen of a permanent society given in Chapter IV, it is stated, that by the payment of 13 shillings monthly for 10 years, an invester can realise a share of £100 to be received at the end of that time. If the principle of temporary life assurance be applied, which can be done with safety in a permanent building society, the members of which increase in number every year, it is found that, in consideration of a mere trifle extra per month (at some ages even less than one shilling per cent.) in addition to the 13 shillings, the building society itself would be able to undertake to pay at once to the family of a non-borrowing member his share in full, should he die before the 10 years have expired. Such an arrangement would be a most important boon to the industrious classes, whose families suffer greatly from the pecuniary loss occasioned by their unexpected death. And by a careful medical examination of the parties proposing to avail themselves of this privilege, and a resolute rejection of all objection-

able lives, the society might with great safety undertake the risk of a member dying in the space of 10 years, or a similar short term.

In the presence of the existing Act of Parliament respecting these associations, by which their action is much restricted, and in the absence of all superintendence on the part of government over their financial and general operations, the plan above suggested cannot be adopted; nor would it be prudent to do so, even if the act permitted this or other modifications in their system, until some regulations are enforced to act as a check to the practical errors which daily arise in the working of many of these societies. But it is probable that a permanent building society of unexceptionable respectability might secure the co-operation of a life assurance office, which would undertake the risk. In any case, it is fervently to be hoped, that if ever the other objections and deficiencies in the Act undergo revision, some step will be taken for combining, as far as may be practicable, the operations of building societies with the important benefits of life assurance.

Section 3.

Building Society shares as security for Fidelity in Situations of Trust.

Instead of making the shares payable at *death* in the event of the members dying before the completion of his subscriptions, another valuable modification might be introduced.

In consideration of a small extra payment beyond the monthly share subscriptions, the members of the building

society might *mutually guarantee the fidelity of each other*, if employed in situations where such security were required. Provided always, that previously to affording such a guarantee to a member, due care were taken to make strict enquiry respecting his past and present character.

The rates of contribution for fidelity assurance may be ascertained from statistical data, which can be rendered as complete as the corresponding data representing the laws of mortality; and it is plain that the payments of a member might be so combined, that the amount of a share could be made payable, at the end of the given number of years, to himself or his family, if he continued honest; at the same time that it might be made payable to his employer for the time being, in case he should in the mean time commit a breach of trust; in which latter case he himself would forfeit all claim from the society.

Guarantee societies have been established within the last few years solely to obviate the defects of suretyship by private bondsmen, a practice which was found to be attended with various inconveniences and objections;—instances having constantly occurred in which persons of great respectability were obliged to forego excellent situations, from either the great difficulty of obtaining security, or a repugnance to place their relatives or friends under the obligations involved therein. A fidelity society, commonly called a guarantee society, undertakes, on the annual payment of a small sum, to make good, in case of default by fraud or dishonesty, any losses which may be sustained to an amount specifically agreed upon; and by such means obviates the necessity for private sureties as well as the obligations arising therefrom, which often prove as prejudicial to the best interests of the employers as to the employed.

To the employer the guarantee of such a society is

much more valuable than the bond of any individual, inasmuch as it is not liable either to doubt or depreciation. In large establishments, both public and private, where the securities are numerous and the sureties often resident in many different parts of the country, and known only by repute, it becomes almost impossible to watch over their continued existence and solvency; and cases of default have frequently occurred when, upon investigation, it has been found that all the sureties have been dead for many years.

By these means, security has been provided only for the fidelity of the employed: but the plan of a guarantee society is still defective, in consequence of its being considered virtually not to offer a sufficient discouragement to dishonesty. It has been felt that a pure fidelity-policy does not even, in point of morality, possess the advantage afforded by private suretyship,—inasmuch as the son, to whose nature it would be repugnant, by his misconduct, to bring disgrace and ruin upon his father, brother, or friend, might feel little anxiety as to the pecuniary loss inflicted upon a guarantee society. In other words, it is conceived that a disposition to fraud is not effectually checked,—the reflection arising, that as the rates of a guarantee society pre-suppose the existence of such a disposition on the part of at least one out of every two hundred of its selected assurers, the loss sustained by the society through such defalcation would be but the result of the "*average*."

In the plan here suggested, the subscribers, while satisfying the requirements of their employers in respect to their honesty and good conduct, would receive an additional stimulus from the reflection, that all their subscriptions would become forfeited in the event of their acting dishonestly. Hence the greatest moral benefits

might be expected, as the members of such an association would serve as a mutual check on each other. A new incentive to honesty would be gained, and while a sum of money would guarantee the fidelity of the invester, the mere fact of his admissibility to such an insurance would be a strong testimonial to his character. At the same time various practical regulations would of course be requisite to secure the judicious working of this suggestion.

Section 4.

On the joint combination of Life and Fidelity Assurance in co-operation with the ordinary principles of Building Societies.

The methods of life assurance and fidelity guarantee suggested in the two preceding sections, may be either adopted *separately* for the convenience of different members of the same society, or *combined* together in such a manner, that while on the one hand a non-borrower might subscribe, with the view of receiving his share in full at the end of a given term of years; yet in the event of his *previous death* or committing a *breach of trust*, the amount of his share might be made payable to his family or to his employer, whichever happened to be the case.

In the system of a permanent building society, combining the three advantages alluded to, the rates of monthly subscription per share can be calculated, so as to enable the association with safety to undertake the payment of an invester's share in full at the end of the specified term of years if he is alive; at the same time, that the same amount of share would be payable to his family in the event of his previous death, or to his employer should he commit a breach of

trust. Great care being taken of course to examine his state of health, to see that he is a sound life, and to ascertain that his past and present moral character is free from stain or reproach.

The adoption of the important considerations which form the subject of the last three sections of this chapter would necessarily introduce some complication into the affairs of a building society, but it should be borne in mind, that the scope and consequent prosperity of all institutions of this kind depend upon the variety of the cases, to which their provisions are adapted; and that, while a society might offer all or any of the advantages we have enumerated to those among its members, whose situation might render them desirable, there is no reason why the adoption of either guarantee or life assurance should be made compulsory on those members, who have no occasion for them. One man may wish to assure his life; another may stand in need of security for his honesty; a third may require both the one and the other; and a fourth may be so circumstanced as to have no occasion for either. The several cases we have supposed are in reality those not of individuals but of separate classes, to each of which the same society may offer the advantage suited to their own peculiar requirements, and by thus multiplying its members, increase its stability and diffuse its benefits.

CHAPTER IX.

THE ACT FOR THE REGULATION OF BENEFIT BUILDING SOCIETIES. 6 & 7 WILLIAM IV. Cap. 32. 14TH JULY, 1836.

With observations and legal decisions.

WHEREAS certain societies, commonly called Building Societies, have been established in different parts of the kingdom, principally amongst the industrious classes, for the purpose of raising by small periodical subscriptions a fund to assist the members thereof in obtaining a small *freehold or leasehold property*; and it is expedient to afford encouragement and protection to such societies and the property obtained therewith. Be it therefore enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords spiritual and temporal, and Commons, in this present Parliament assembled, and by the authority of the same. That it shall and may be lawful for any number of persons in *Great Britain* and *Ireland* to form themselves into and establish societies for the purpose of raising, by the monthly or other subscriptions of the several members of such societies, shares, not exceeding the value of *one hundred and fifty pounds* for each share, such subscriptions not to exceed in the whole *twenty shillings per* month for each share, a stock or fund for the purpose of enabling each member thereof to receive out of the funds of such society the amount or value of his or her share or shares therein, to erect or purchase one or more dwelling house or dwelling houses, *or other real or leasehold estate*, to be secured by way of mortgage to such society, until

Societies may be established for the purchase or erection of dwelling houses.

the amount or value of his or her shares shall have been fully repaid to such society with the interest thereon, and all fines or other payments incurred in respect thereof, and to and for the several members of each society from time to time to assemble together; and to make, ordain, and constitute such proper and wholesome rules and regulations for the government and guidance of the same as to the major part of the members of such society so assembled together shall seem meet; so as *such rules shall not be repugnant to the express provisions of this Act, and to the general laws of the realm;* and to impose and inflict such reasonable fines, penalties, and forfeitures upon the several members of any such society who shall offend against any such rules, as the members may think fit; to be respectively paid to such uses for the benefit of such society as such society by such rules shall direct, and also from time to time to alter and amend such rules as occasion shall require, or annul or repeal the same, and to make new rules in lieu thereof, under such restrictions as are in this Act contained; provided that no member shall receive or be entitled to receive from the funds of such society any interest or dividend, by way of annual or other periodical profit upon any shares in such society, until the amount or value of his or her share shall have been realized, except on the withdrawal of such member, according to the rules of such society then in force.

The words "*freehold or leasehold property*," inserted in the introductory part of this statute, have given rise to a very important question; *viz.* Whether *copyhold property* may be acquired under the Building Societies' Act?

On this question eminent counsel and judges have delivered conflicting opinions; their decisions, however, shew that *copyhold property* is comprehended in the terms *real estate;* and the words *real estate* being used in the *enacting* part of the statute, 6 & 7 *Wm. IV. Cap. 32,* it follows that *copyhold property* may be acquired under the Building Societies' Act.

Mr. Egan, in his able exposition of this act, remarks, "nevertheless, I am aware that some societies, influenced no doubt by the opinions of their counsel, have refused to accept as a security copyhold property; but I am of opinion, that it is rather a hazardous experiment for building societies (in the absence of a judicial decision on the act) to decline assisting their qualified members in purchasing such property; indeed, I think it would be found extremely difficult to justify in a court of law or equity the pursuance of such a course.

"There is certainly one reason which may disincline building societies to advance their funds on copyhold security; namely, the expenses attending the admission of trustees as tenants, upon the surrender of the property; but this objection is obviated in cases where the shareholder is willing to give sufficient security to cover the expense of such admission; while, on the other hand, if the large portion of waste manorial land, to be found throughout the kingdom, be taken into consideration; land which might be obtained with facility on liberal terms, and the possession whereof by the industrious classes would prove most conducive to their interest; it would clearly become an object of considerable importance, that, through the instrumentality of building societies those classes (for whose particular benefit, be it remembered, this act was passed) should be enabled to purchase small copyhold properties.

"The words of the act distinctly convey the intention of an enlightened legislature, by stating that '*it is expedient to afford encouragement and protection to such societies, and the property obtained therewith.*' It is a statute wisely and benevolently intended to confer benefits on the industrious and prudent portion of Her Majesty's subjects; and therefore should, as it doubtless would, from Her Majesty's

Judges, whenever circumstances demand the exercise of their authority, receive a liberal construction."

Bonus, &c. not to be usurious.

II. And be it enacted, That it shall and may be lawful to and for any such society to have and receive from any member or members thereof any sum or sums of money, by way of bonus on any share or shares, for the privilege of receiving the same in advance prior to the same being realized, and also any interest for the share or shares so received, or any part thereof, without being subject or liable on account thereof to any of the forfeitures or penalties imposed by any act or acts of parliament relating to usury.

Rules may be made to provide forms of conveyance, &c.

III. And be it further enacted, That *it shall and may be lawful to and for any such society, in and by the rules thereof, to describe the form or forms of conveyance, mortgage, transfer, agreement, bond, or other instrument, which may be necessary for carrying the purposes of the said society into execution;* and which shall be specified and set forth in a schedule to be annexed to the rules of such society, and duly certified and deposited as hereinafter provided.

Provisions of Friendly Society Acts of 10 Geo. IV. c. 56. and 4 and 5 Wm. IV. c. 40, extended to this Act.

IV. And be it further enacted, That all the provision of a certain act made and passed in the tenth year of the reign of his late Majesty King *George* the Fourth, intituled *An Act to consolidate and amend the Laws relating to Friendly Societies*, and also the provisions of a certain other act made and passed in the fourth and fifth years of the reign of his present Majesty, King *William* the Fourth, intituled, *An Act to amend an Act of the tenth year of his late Majesty, King* George *the Fourth, to consolidate and amend the Laws relating to Friendly Societies*, so far as the same, or any part thereof, may be applicable to the purpose of any benefit building society, and to the framing, certifying, enrolling, and altering the rules thereof, shall extend and apply to such benefit building society, and the rules thereof, in such and the same manner as if the provisions of the said acts had been herein expressly re-enacted.

Receipt endorsed on mortgage to be sufficient discharge without re-conveyance.

V. And be it further enacted, That it shall be lawful for the trustees named in any mortgage made on behalf of such societies, or the survivor or survivors of them, or for the trustees for the time being, to endorse upon any mortgage or further charge given by any member of such society to the trustees thereof, for monies advanced by such society to any member thereof, a receipt for all monies intended to be secured by such mortgage or further charge, which shall be sufficient to vacate the same, and vest the estate of and in the property comprised in such security, in the person or persons for the time being entitled to the equity of redemption, without it being necessary for the trustees of any such society, to give any re-conveyance of the property so mortgaged, which receipt shall be specified in a schedule to be annexed to the rules of such society, duly certified and deposited as aforesaid

Not to authorize investment of funds in savings' bank.

VI. Provided always, and be it further enacted, That nothing herein contained shall authorise any benefit building society to invest its funds, or any part thereof, in any savings' bank, or with the commissioners for the reduction of the national debt.

Benefit of Act to extend to all societies, established prior to June 1836.

VII. And be it further enacted, That all building societies established prior to the first day of June one thousand eight hundred and thirty-six, shall be entitled to the protection and benefits of this act, on their present rules being duly certified and deposited as directed by the said recited acts; and no such society shall be entitled to the benefits of this act, until their rules shall have been so certified and deposited; and that no such society shall be required to alter in any manner the rules under which they are now respectively governed.

Exemption from stamp duties.

VIII. And be it further enacted, That no rules of any such society, or any copy thereof, nor any transfer of any share or shares in any such society, shall be subject or liable to or charged with, any duty or duties whatsoever.

Various opposite opinions have been given also on the question, whether mortgage and other deeds of building societies are liable to stamp duty. The result is that it is now considered established as a principle, that they *are* liable.

Public Act. IX. And be it further enacted, That this act shall be deemed a public act, and shall extend to *Great Britain*, *Ireland*, and *Berwick-upon-Tweed*, and be judicially taken notice of as such, by all judges, justices, and other persons whatsoever, without the same being specially shown or pleaded.

One or two points not mentioned in the Act are worthy of attention as having been the subject of legal decision.

Income Tax.—As regards this subject Mr. Egan remarks:—"By the Statute 5 & 6 Vict., cap. 35, sec. lxxxviii. (schedule C.,) Friendly Societies are to a certain extent exempt from the operation of the Income Tax Act." Building Societies, however, not being mentioned in that statute, it has been decided by the commissioners, that "Such associations are liable to the payment of *sevenpence on every twenty shillings of interest* paid to the societies by the respective members who have purchased out their shares, notwithstanding any rule or agreement made to the contrary by such society."—*Case of Caigell* v. *The Durham Building Society.*

It is clear, however, that if a society pay income tax on such of its receipts as arise from interest, a corresponding deduction must be made, at the close of the society or a person's membership, from the amount of his share then due; the deduction affecting that portion of the full share which represents the accumulations from interest. The correct amount is obtained by a calculation of some nicety.

The right to Vote at Parliamentary Elections.—Mr. Egan also states: "That this privilege has been decided in favour of the members of building societies. At the East-Surrey Registration Court, in 1846, forty-eight persons connected with a building society claimed to have their names placed on the registry in respect of four freehold houses in the parish of St. George, which gave the requisite qualification for the above number of claimants. The revising barrister held that all the claims were valid, and the parties entitled to the franchise. It was nevertheless doubted whether such claims could not be objected to as coming within the purview of the Act of Parliament against unduly multiplying or creating votes—(statute 7 & 8 Wm. III., cap. 25, sec. 7); but all doubts on this point may now be considered settled by the decision given in the cases of *Alexander, appellant and Newman, respondent.* 1 *Bar and Arnold*, 657, *and Thorney, appellant and Aspland, respondent.* 1 *Bar and Arnold*, 688; where Chief Justice Tindal, in delivering the judgment of the Court, said:—'The object of increasing the number of freeholders at a county election is not an object, of itself, against law or morality, or sound policy. There is nothing injurious to the community in one man selling and another buying land for the direct purpose of giving or acquiring such qualification. The object to be effected is neither *malum in se* nor *malum prohibitum.* On the contrary, the increasing the number of persons enjoying the elective franchise has been held by many to be beneficial to the constitution, and certainly appears to have been the leading object of the legislature in passing the late Act for amending the representation of the people of England and Wales.'"

Minors.—From the circumstance of the 32nd sec. of stat. 10 Geo. IV., cap. 56, authorising minors to become

members of friendly societies, it would appear by the prospectuses of some building societies, that a notion prevails, that infants may also become members of societies established under stat. 6 & 7 Wm. IV., cap. 32, and enter into all the obligations connected therewith, and enjoy all the advantages derivable therefrom. Such an opinion is, however, considered erroneous, more particularly as regards the execution of mortgages; for Lord Coke says:—"At *twenty-one*, and *not before*, persons may bind themselves by any deed." 1 *Inst.* 171. And although an infant (according to the same authority) hath capacity to purchase, yet, "*At full age he may agree thereunto, and perfect it, or, without any cause to be alleged, waive or disagree with the purchase.*" 1 *Inst.* 2.

Consequently, as minors are not legally bound by deeds executed when under age, or compellable to complete purchases made during their minority; it is highly objectionable, as regards the interests of members generally, for the promoters or managers of building societies to hold out inducements to infants to become shareholders in such associations.

If, however, an infant, on coming of age, does not take steps to get rid of his liability, he is bound.—*See the Cork and Bandon Railway Company* v. *Cazenove*, *C. of Q. B.*, *Trinity Term*, 1847.

Respecting the granting of advances to members of building societies on the security of property already *in their immediate possession.*—On this point considerable doubts exist. The question being, whether building societies may lend money for the purpose of *redeeming existing mortgages*, or to meet any other exigencies of a member, on the security of a house already in his possession. The supposed intention of the Act being merely to encourage the *Purchasing* or *Erecting* of such property, Mr. Tidd

Pratt gave to the St. Luke's Equitable Building Society the following opinion in answer to a case submitted to him by the Directors of that Institution:—

Question: "Whether under the provisions of the 6 & 7 William IV., the contemplation of building only was considered, the erection or purchase of property being the same. Is it not necessary that a party who becomes entitled to the £200 appropriation should build or purchase; or can he assign property in his then immediate possession as security upon the terms contained in the rules, for its repayment, or any other monies provided for such purpose: and, if so, whether any new rules would be necessary to enable the trustees to deal with such a transaction? And whether, presuming that the trustees are incorrect in making such advance, the party taking the same, being a member, could take any advantage of it, so as to defeat the security or liability to pay: or whether such a transaction would be affected by the usury laws, or any other laws or circumstance whatsoever?"

Opinion: "It appears to me that in strictness, under the provisions of the Benefit Building Societies' Act, the money borrowed from the society should be to erect or purchase property: and, consequently, that a member cannot assign as security property which he already possesses. If money is advanced not according to the rules and provisions of the Act, I am of opinion that the member, or any person claiming under him, might set the transaction aside, and in equity would be entitled to a return of his deeds, on payment of principal and legal interest."—(Signed) John Tidd Pratt.—London, March 3, 1847.

The opinion above cited does not, however, materially affect the interests of those societies having already accepted such security; because, under any circumstance, a society cannot be injured, even if a member were to open

the question in a Court of Equity, by the delivery of the title-deeds, and abrogation of any further claim on part of the society, *on payment of principal and legal interest.*

At the same time it is very desirable that the probability or possibility of such dispute arising, should be prevented by proper caution previously taken to enforce such conditions on part of the mortgagor, as would bring the transaction within the strict letter of the Building Societies' Act.

Legal decisions.

I. Forty Shilling Freeholds.—Court of Common Pleas.—This was the first day appointed for the hearing of registration appeals. The first in order called on was *Copeland* v. *Bartlett.* This was an appeal from the revising barrister of the southern division of Essex. Mr. Serjeant Byles appeared on behalf of the appellant; and Mr. Badeley for the respondent. It appeared from the case that the appellant was a member of a building society, and proprietor, as such, of a share and a half, in respect of which he had to pay 15*s.* a month subscription. By the rules of the society members are permitted to borrow a sum equivalent to the amount of their paid-up shares, for the purpose of laying out the same in the purchase or erection of some building, a mortgage being given to the society, to secure the payment of the subscription on the building so purchased or built, to the amount of the sum advanced. It appeared that the appellant had thus obtained an advance of £65 for the purchase of a cottage and garden, of the estimated value of £8 a year, for which a mortgage had been given to the society for the security of the payment of his 15*s.* monthly subscription, or £9 a year, *the appellant to be entitled to redeem his mortgage on paying off the sum advanced. The appellant claimed to vote as a* 40*s. freeholder.* The revising barrister held, that, deducting the charges upon his freehold he

had not such an interest as entitled him to a vote; in other words, that he was not a 40*s.* freeholder. Mr. Serjeant Byles contended that, under the 74th section of the 6 Vict. c. 18, the mortgagor in possession of land is entitled to vote in respect of it. He referred to the Building Societies' Act, 6 & 7 Wm. 4, cap. 32, for a description of the security given by the appellant to the society, under which he contended the society had no right to enter on the appellant's land, until the appellant had made default for three months, and the case found that he was not a defaulter. So that the charge on the land was a future and contingent charge, and was not now to be taken in reduction of the appellant's interest in the land. The value was therefore sufficient, and the appellant was mortgagor in possession of the land; the 8th Hen. 6, chap. 7, giving persons a right to vote for knights of the shire who shall reside and dwell in the same county, and shall have land of the value of 40*s.* a year above all charges. Mr. Badeley submitted that the decision of the revising barrister was right. The security given was a mortgage, and charged upon this land under the terms of the Building Societies' Act. This charge reduced the annual value of the land below 40*s.*, and therefore disqualified the voter. He referred to *The Bedfordshire Election Committee*, 2 Luder's Election Cases, 422; *Wetherall* v. *Bell*, Luder's Election Cases; 28 George 3, cap. 36, sec. 6; and *Moseley* v. *Baker*, 17 L. T. Chancery, 257.—The Court, in giving judgment, said, the revising barrister had come to a right conclusion. The voter, in order to make out his claim, must shew that at the end of July he was possessed of an estate in which he had an interest of 40*s.* a year. The question was, whether he had that interest in his estate beyond the charges secured upon it. If a man receive 20*s.* with one hand, and had to pay 30*s.* with the other, what interest in the 20*s.* had he left? Under the statute of 28 Geo. 3, c. 36, a man was bound to make oath that he was entitled to vote—that was, that he had a 40*s.* freehold free of all charges. How could the voter make this declaration? and if not, how could the revising barrister say he was entitled to be registered as a voter? A mortgagor was entitled to vote in respect of his estate, provided he retained a sufficient pecuniary estate over and above the charge upon it. The case found that the appellant had a charge upon his estate which reduced his interest in it to below 40*s.* a year, and therefore he was not entitled to vote in respect of it. Vote disallowed. Decision affirmed.

II. Bloomsbury Benefit Building Society.—Shoreditch County Court.—Leaver and Others *v.* Crane.—This action, which came on before Mr. Serjeant Storks, was brought by the *trustees of a building society against one of its members who, having received an advance upon his shares, had neglected to continue his monthly payments, and it was now sought to establish his personal liability in addition to the mortgage security held by the plaintiffs.* The secretary of the society stated the case, from which it appeared that the plaintiffs were trustees of the Bloomsbury Benefit Building Society, which was established in 1847; that in March last the defendant became entitled to an advance on $9\frac{3}{4}$ shares, amounting to £554, to secure which he executed a mortgage to the plaintiffs of certain premises in the Lower-road, Islington. The mortgage-deed contained, among others, a covenant that the defendant should, every month, make the payments prescribed by the rules of the Society, which amounted to 6*l.* 16*s.* 6*d.* per month. This he had omitted to perform for three consecutive months, which was the longest period allowed by the rules, and this action was brought to recover 13*l.* 13*s.*, being the amount of two months' subscription. The mortgage-deed and the certified copy of rules were handed in to the judge. Mr. Turner, the solicitor who appeared for the defendant, said that the defendant had no defence to the action, but that the plaintiffs might take the property in question, the defendant being willing to sacrifice what he had paid in, amounting to nearly £100. The secretary said that the amount to the credit of defendant was about £97, of which not more than £15 had been paid by him, the remainder being money advanced by the society over the value of the property, to enable him to pay the arrears upon his shares, and the legal expenses of the purchase, that the plaintiffs would have taken the course suggested, had it not been that the defendant had not completely finished the premises, nor had he taken any steps towards obtaining a tenant, although he had had possession for more than seven months. His honour, who took the greatest pains to elucidate the case, said that it was evident that this action was only a "bye battle," and was not the main object of difference, it was, indeed, an attempt on the part of the plaintiff to obtain additional powers. These powers, on the evidence, and on the merits of the case he could not refuse; his judgment therefore was, that the defendant pay £1 per month.—*The Reporter Building Society Journal.*

III.—Vice-Chancellors' Court.—Before Sir L. Shadwell. Dobinson *v.* Hawkes.—In this case the plaintiffs, who were trustees of a company called the "Low Lights Brewery," purchased property for the purpose of building, but being unable to raise the whole of the purchase-money, applied to a Mr. Alderson, who held 100 shares in a building society called the "Friendly Building Society," who thereupon transferred fifty shares to the plaintiffs. This building society was established by Act of Parliament in 1839, for the purpose of enabling poor persons to purchase houses and lands. Every member had to pay 10*s.* monthly on each share held by him, and when the capital of the society amounted to a sufficient sum a division was to take place, and £120 was to be alloted for each share. Any member might at any time receive the £120 by anticipation, provided he paid a premium of £30 per share, and found security for the due payment of the monthly instalments, with interest at 5 per cent. on the amount advanced. The plaintiffs having fifty shares obtained the advance of £120 per share, according to the terms of the Act, and executed an indenture of mortgage, bearing date October 1846, as security for the amount advanced, as well as for the due payment of the monthly instalments and interest. *The present suit was instituted for the purpose of redeeming that mortgage and having a reconveyance executed upon paying what they had actually received from the society.* Mr. Bethell and Mr. Bates, for the plaintiffs, contended that they never were members of the building society; that the mortgage was to be looked upon as any other mortgage; that the accounts of what was due must be taken in the ordinary way, and a reconveyance directed upon payment of what should be found due. Mr. Rolt and Mr. Prior, for the defendants, argued that the plaintiffs were members of the society, and bound by its rules; that no repayment of the money advanced was ever contemplated; and that the conditions which attached to the shares in the hands of Alderson, the original holder, must be abided by.—The Vice-Chancellor said the plaintiffs had pressed that an account should be taken of what was due on the mortgage according to the truth, but the object of the defendants was not to have such an account taken, but to have one on the footing of the fabricated scheme of the sale of the shares set out on the papers. Then the first thing to be proved was this:—it must be made to appear that the plaintiffs were members of the building society. By the rules of the society, it was directed that the name of each member should

be entered in a book. That book had not been produced in evidence, and the non-production of it was, in his opinion, incontrovertible evidence that they were not members; and, even if their names had been in the book, he still thought that, from the words of the Act, and the rules of the society, it would have been a fraud on the Act to have made them members. The society was intended for the benefit of industrious individuals who might be hampered in their circumstances, to enable them to purchase houses and lands. The words of the first section of the Act were:—"To erect or purchase one or more dwelling-house or houses," &c. But what was the case here? A company, established for a totally different purpose, wished to borrow money, and the scheme set up by the defendants was that the money should be borrowed as if they were acting members of the building society; but there was nothing in the Act which could countenance a company borrowing money; the words used in the Act throughout were "his" and "her," thereby plainly shewing what the views of the legislature were, *viz.*, to assist individuals. Besides that, there was a failure in proof that the Brewers' Company were shareholders of the building society, and, even if proof had been tendered, such proof would have been inadmissible. Under these circumstances he should refer it to the Master to take an account in the usual way of the money actually advanced by the building society for the plaintiffs on the security of the indenture of October 1841, and compute interest thereon at £5 per cent. from the date of each of such advances, the amount of such principal and interest to be paid by the plaintiffs to the defendants. The costs of the suit up to the hearing to be paid by the defendants.

IV.—Equitable Provident Association.—Mozeley *v.* Baker. Redemption of a Mortgage to a Building Society.—This case was argued before Vice-Chancellor Wigram, on the 11th February, 1848. This suit has raised a question of importance to the members of building societies, formed under the statute 6th and 7th William, c. 32, which are now become so numerous. It appears that the societies are usually composed of two classes of members, which are called the non-purchasing and the purchasing members. This at least was the constitution of the society with respect to which the suit arose, and which was a society established at Hoxton, and called the Equitable Provident

Association. The plaintiff was a purchasing member, and in April, 1845, had bought 12½ shares in the society, upon which the society gave him an advance of £750, on the security of some premises at Hoxton, and which £750 was to be taken as the purchase-money by the society of the plaintiff's right to the value of the shares at the dissolution of the society. *The plaintiff afterwards became desirous of paying off the amount of this advance, and releasing his property from the charge, and the question was as to the terms upon which he could redeem his estate.* This depended on the terms of the security, and on the rules of the society. The 58th rule, which expressed the terms of the loan was as follows:—" that in the mortgage the usual covenants for insurance shall be inserted. It shall be specified that in case the said member shall at any time thereafter fail, neglect, or refuse for six monthly nights to pay all or any of his or her subscriptions, payments, and redemption-money, or to observe and perform all or any of the regulations on his or her part respectively to be paid, observed, and performed, then the trustees for the time being shall appoint a person or persons to collect the rents and profits of the premises therein mentioned; but should the same be insufficient to satisfy the purpose aforesaid, then the said trustees shall, without the concurrence or consent of such member, absolutely sell and dispose of all or any part of the said premises, either by public auction or private contract, for the most money that can be had or gotten for the same, and shall receive the purchase-money arising therefrom; and at such public sale the trustees, or one of them, or some other person to be appointed by them or him, in writing, shall be allowed to buy in the premises on behalf of the association, and to re-sell the same without being answerable for any loss to be occasioned by such re-sale, but that if any loss should be occasioned by such re-sale, it shall be borne by the mortgagor; and out of the money to arise from such collection of rents and profits, or such sale as aforesaid, the trustees for the time being shall in the first place discharge all costs, charges, and expenses which may be incurred on account of such collection of rents, or sale or sales, or in anywise relating to the trusts therein contained; and in the next place, shall retain and reimburse themselves and the said association all such principal, subscriptions, and other payments as shall be then due, owing, and payable by such member, under and by virtue of these rules; and the mortgage and the monies so retained

for the said association shall be immediately placed at the banker's to the account and for the use and benefit of this association, and they shall pay the surplus (if any) arising from such sale or collection of rents to the said member, or to such other person or persons as he or she shall by writing under his or her hand direct or appoint to receive the same. That in case any mortgagor shall be himself the actual occupier of any premises mortgaged to this association, then and in such case the mortgage deed shall contain a stipulation that he shall become tenant to the trustees at a rent which shall be sufficient to cover the amount of his yearly payment, and the trustees shall have power of distress as in cases of landlord and tenant, and with the money to be produced by such collection of rents, issues, and profits on such sale, the trustees for the time being shall in the first place discharge all costs and expenses which may be incurred on account of such collection of rents, or sale or sales, or in anywise relating to the same." In this case the monthly payments to be made by the plaintiff were 10*s.* per share as the subscription, and 4*s.* per share as redemption monies, making in the whole £8. 15*s.* per month. There were also fines, imposed in cases where the monthly payments were not punctually made; and fines to a considerable amount had, it appeared, been incurred by the plaintiff.

The 62nd rule, expressing the terms of redemption, was as follows: "That if any member of this association shall be desirous of paying off and redeeming any security or securities which he or she shall have given to this association, and shall give notice of such his or her desire to the manager, the directors shall allow such member the profits of his share or shares made up to such time, and shall make a deduction of such profits and of the amount of subscriptions paid in by such member from the full amount expressed to be secured in and by the mortgage; and the directors are hereby authorized and empowered to receive the balance either in one payment, or by such instalments as the directors and the member shall agree upon; and on payment of the balance, together with all fines due in respect of such share or shares, the directors shall authorize the trustees to deliver all deeds and other documents in their custody relating to the mortgage so redeemed to the member, and at his or her cost endorse a receipt or acknowledgment of payment on such mortgage, according to 6 and 7 William IV., cap. 32." Mr. Rolt and Mr. Prior, for the plaintiff, insisted that upon the true construction of

the 62nd rule, the plaintiff was entitled to redeem his property upon repayment of the £750, and his subscriptions to that time, deducting the amount of the subscriptions and redemption-money which he had already paid to the society, and he would thenceforward cease to be a member of the society, and cease to be liable to any further subscription. They did not ask that the court should make any declaration as to the future liability of the plaintiff to the society. If any demands were made upon him for further subscriptions, he would be prepared to defend himself. All that the court was at present asked to do was, to decree the reconveyance of the property upon the repayment of the £750, and the subscriptions which had already become due. Mr. Romilly and Mr. Bevan, for the trustees of the society, contended that the suit was founded upon a mistaken construction of the rules of the society and the liabilities of the plaintiff. The plaintiff might redeem his estate, but it could only be upon payment of the subscriptions on all his shares up to the time to which the society might be calculated to endure. This was the obligation which he had taken upon himself by the security he had given. *The society were purchasers of an annuity rather than mortgagees, which they were inaccurately called.* The orginal funds of the society were raised by monthly subscriptions of 10*s.* on each share. When a sufficient fund was by this means accumulated, an auction was held for the sale of shares, and any member who might be desirous to obtain an advance of money became a purchaser of new shares, to each of which new shares is attached the liability of paying 10*s.* per month subscription, and 4*s.* per month redemption-money. From these payments the party could not afterwards escape. The 103d rule provided that *when* £120 per share in amount or value should be realised, the *society should terminate*, and the deeds should be delivered up to the members with a receipt or discharge from the mortgage. Every member was therefore interested in the prosperity of the society; and when this amount was realised, the plaintiff, in the ordinary course of the society, would recover his estate unencumbered. The mortgage would discharge itself. If, however, he chose to abandon the society sooner, he could not do so without fulfilling the obligation of paying the monthly payments until the dissolution of the society. The only difference was, that in such a case the duration of the society must be made a subject of computation, instead of being ascertained as a fact.—His Honour

in giving Judgment on the 17th instant, observed, that the principal question argued was, whether in taking the mortgage accounts the plaintiff was to be charged in respect of monthly subscriptions to the society up to the probable period of the dissolution of the association, or whether such payments were to be considered as ceasing from the time of redemption. The probable duration of the society was estimated at about ten years from its establishment, and in settling the terms of the mortgage the value of the plaintiff's shares had been fixed at £60 per share. His Honour was of opinion that the accounts ought to be taken upon the footing of the mortgage deed, which *clearly contemplated a continuation of the monthly subscription up to the period of the dissolution of the society.* That would clearly be the right of the defendants upon the deed standing alone, and there did not appear to be anything in the rules of the association to control the effect of the deed.

A question was then raised as to whether the plaintiff should be charged the full amount of the subscriptions to accrue due in future, or whether with the present value of such subscriptions only?—Upon this point his Honour, after reserving it for consideration, delivered his opinion at a second hearing. The question argued, he said, was: whether in taking the accounts the plaintiff was to be charged with the subscriptions and other monthly payments, which should accrue due during the existence of the association, in respect of the plaintiff's shares, at periods subsequent to the redemption; or whether the accounts were to be taken upon the footing of the plaintiff ceasing to be a member of the society after redemption, and consequently ceasing to be liable in respect of the monthly payments. His Honour at the conclusion of the argument decided that the accounts were to be taken on the principle of a continuing liability on the part of the plaintiff, in respect of the subscription-money; and a question was then raised, whether the plaintiff was to be charged with the *present value only* of those instalments calculated upon the probable duration of the society, or whether he was to be charged with the *full amount* of such instalments, treating the payments as actually due.—His Honour was of opinion that, for the purpose of coming to a decision upon this point, the court was bound, as it had been in considering the former point, to look at the terms of the mortgage deed alone. The terms of that deed, he thought, showed that in the case of a sale upon default the present question

had been provided for by the framers of the deed. The deed provided that in case of default on the part of the plaintiff in making or observing any of the payments or obligations provided for by the deed the defendants were to make sale of the property, and out of the proceeds reserve the expenses incurred in the trust, and then retain the amount of the mortgage-money and interest, together with the monthly subscriptions and other payments then due, or thereafter to accrue due in respect of the plaintiff's shares, the amount to be calculated by the director of the society, considering the future instalments as actually due, and taking into consideration the probable duration of the society. That mode of calculation, as it was pointed out by the deed in the case of a sale, must be that taken also as the guide in the case of redemption. The decree, therefore, would be for an account in the terms of the deed of future subscription-money, treating the *instalments as actually* due, and, by consent of the parties, calculating the amount upon the hypothesis that the society would continue to exist for a period of ten years, reckoning from its commencement. *The National Building Society Journal.*

An appeal from this decision having been subsequently made to the Lord Chancellor the judgment was confirmed.

V. Hackney Building Society.—Liability of Trustees.—Roberts *v.* Offer and others.—This was an action tried before Mr. Serjeant Storks, at the Shoreditch County Court, to *recover the sum* of £9. 10*s.*, brought by Miss Rebecca Roberts, a shareholder in the Hackney Benefit Building Society, *against the defendants as trustees*, pursuant to her notice to withdraw. Miss Roberts stated that she became a shareholder in the year 1845, and had paid into the society £9. 10*s.*; in March, 1847, she delivered a notice to withdraw to Mr. Mesban, the then secretary of the society.—Mr. Evans appeared as counsel for the defendants, and submitted that the plaintiff could not maintain an action in a court of common law, inasmuch as the Act of Parliament had pointed out a remedy for settling all disputes to arbitration. That according to the rules of the society, five arbitrators are to be elected at the first meeting after the enrolment of the rules, who are to decide all disputes that may arise. The judge said that he should require proof of the enrolment of the rules, and also as to the election of the arbitrators; he had decided a similar

case last month, when this objection was not made as to the jurisdiction of the court. Mr. Oxley, the defendant in that case, had offered no objection whatever to a verdict up to the time he was a trustee. Mr. Evans said that the question had not been in that case submitted to the judge; he would prove that the arbitrators had been elected according to the rules, and according to the mode pointed out by the Act of Parliament. Mr. Mesban, the late secretary, proved that he was present at the first meeting of the shareholders, after the enrolment of the rules, when five gentlemen were elected arbitrators of the society. *The learned judge said he was of opinion that he had no jurisdiction in this case.* According to the Act of Parliament and the rules of the society, it must be decided by arbitrators; he should therefore nonsuit the plaintiff and recommended her to accept an offer made by the defendants, to settle her claim by *a payment of* 14*s. in the pound.—The National Building Society Journal.*

VI. Metropolitan and Suburban Benefit Building Society.—Croft *v.* Lorimer.—In the Sheriff's Court, City, on Tuesday, his Honour gave judgment in the above case. The *action was brought to recover the sum of* 4*l.* 15*s. for money alleged to have been received by the defendant for the use of the plaintiff, on account of a* £100 *share in the above society.* The facts were these: the society was projected in 1846, and was to have consisted of members, holding 400 shares, each share to be paid up at the rate £5 per annum; the plaintiff took up one share, and with defendant, and others became a director of the company. The requisite number of subscribers not being obtained, plaintiff wrote to the secretary, desiring that his name should be withdrawn, and that his money should be returned, on the ground that he had been induced to join the society on the assurance that it was fully established under the provisions of the 6th & 7th Wm. IV., cap. 32. The other directors, however, refused to allow the plaintiff to withdraw, or to return his money, and it was intimated that they intended to alter the fundamental rules of the society, and that plaintiff had been fined £1. Plaintiff again refused to have anything more to do with the society, but offered to pay any reasonable sum for preliminary expenses. On this statement of facts, Mr. Buchanan, of Basinghall-street, argued that if the company had not been formed, the defendant could not be sued as a director, and thereupon plaintiff was non-suited.

A new trial was then had, and Mr. Bagley, for the plaintiff, urged that it would be contrary to law and justice, to compel a person to hold that which was utterly valueless, which the pretended shares were, as they were not legal shares and could not be transferred, the company not being completely formed; he also urged that defendant had clearly made himself responsible, having received the money for a certain purpose which had never been carried out. The secretary was examined, and stated that the money was paid to him, and not to the defendant. It was his (witness's) duty to receive all monies, and give a receipt for the same, countersigned by a director attending in rotation. The rules had been altered, and had been certified by Mr. Tidd Pratt, the Government Commissioner. Plaintiff stated that he paid the sum of £5 by cheque to defendant, who handed him the change. He (plaintiff) believed, at the time, that the society was fully established, and requested to withdraw when he ascertained to the contrary. The defendant said he could not remember the circumstance of receiving the money, which it was very unusual for him to do in such cases, he was merely sitting as a director. Mr. Buchanan again took the objection, that by the Act 9th Geo. IV., cap. 92, sec. 34, being an "Act for consolidating the Acts relating to Friendly Societies," an action would not lie against a trustee or director, but that all matters in dispute must be decided by arbitration. He (Mr. Buchanan) urged that it could not be said that the money was received for the use of the plaintiff who was a director, and would, if he had been acting in rotation, instead of defendant, have countersigned the receipt as the defendant had done, and if this case was established, the plaintiff himself might be called upon to pay similar demands for money received for the mutual advantage of the members, and not for his own benefit. The learned gentleman cited the case of Crisp *v.* Sir H. E. Bambury and others (8 Bing. Rep.) and other cases to the above effect, and urged that it was of the utmost importance to societies of this description, that a favorable construction should be put on the cases cited, as otherwise there would be no end of actions of this kind, if it were held out that directors were liable; but waiving that point, he would rely on the Act, that in case of dispute between the members of the society, the subject matter of dispute must be referred to arbitration. His Honour, after taking time to consider, gave judgment for the defendant. [The above case is a confirmation of the decision of the judge of the city of

London Small Debts' Court, in favor of building societies, that their disputes are referrable only to arbitration.]—*The National Building Society Journal.*

VII. Free Trade Building and Investment Association —Corpe *v.* Matson.—This was an action tried at the Clerkenwell County Court, on Tuesday, the 23rd of January, and was brought by the plaintiff, Henry Corpe, against Mr. J. Matson, as trustee of the above society, *to recover the sum of* 4*l.* 9*s. being the amount of subscriptions paid (less* 1*l.* 1*s. fine), of which notice of withdrawal had been given on the* 9*th of February* 1847. Mr. Higham, who appeared for the plaintiff, stated that he had joined the society at its formation, and had paid subscriptions on one share amounting to 5*l.* 10*s.* which he desired to withdraw, less the fine prescribed by the rules, *viz.*, 1*l.* 1*s.* Mr. Ivimey, solicitor of the society, appeared for the defendant, and objected to the proceedings on the ground that the rules provided that *all disputes should be settled by arbitration;* and also urged that the amount sought to be recovered was not paid during the trusteeship of the defendant, he having been subsequently appointed. The Judge said that when parties became members of a society of this nature they were bound to abide by the rules, and as one of these rules provided arbitration for the settlement of all disputes, he thought this case could be more satisfactorily decided in that manner. The solicitor stated that the plaintiff had made himself liable for another fine under the rules, for refusing to execute a mortgage, and complete an advance upon property which he had offered as security, but that the society was willing to pay the sum of 2*l.* 18*s. being the amount due, after deducting the above fines.* His Honour said that arbitration was a far more satisfactory course, and of more benefit both to the society and the member. It had been provided that more substantial justice might be done than could be administered in a court of law; and it always appeared to him that when there was any departure from the rules, it led to the presumption that one of the parties wished to avail himself of some point which might not be visible on the face of the case. *He should recommend, however, the plaintiff to accept the offer of the society, which was ultimately agreed to.* The plaintiff then applied for costs, but his Honour said his present opinion was against allowing them. He considered that the case should not have come before him, as it was as clear a question as could pos-

sibly be for the arbitration rule, but he would consider the application.—*The Reporter Building Society Journal.*

VIII. Court of Exchequer.—Cutbill *v.* Kingdom.—This was an action for breach of covenant brought by the plaintiff, as trustee of a building society, to recover from the defendant a sum of money due on a mortgage. The defendant was a member and the holder of eight shares, and three quarters of another share; it then set out the parties to the mortgage deed, certain of its recitals and the covenant to pay, and concluded with the breach of nonpayment of a certain sum for subscriptions, fines, and other monies payable in respect of the defendant's shares. The defendant pleaded, among others, the following plea:—That one of the rules of the society provided that no action should be brought or defended until the approbation of the majority of the members present at a "special meeting" of the society should be obtained. And a further plea, that by another rule it was provided that a committee should determine all disputes which should arise respecting the construction of the rules of the society, or any of the clauses, matters, or alterations, or amendments which should or might thereafter arise between the trustees, officers, and other members of the society; and in case their decision should be unsatisfactory, reference should be made to arbitration. At the trial certain objections of the defendant were overruled, and a verdict directed for the plaintiffs. A motion was made in the following term to set aside the verdict, and for a new trial, on the ground of misdirection. It was contended, first, that the rules of the society did not limit its objects to those mentioned in the 6 & 7 Wm. 4, c. 32, the Act regulating benefit building societies, because they authorised a loan of money to members on mortgage, without regard to the purpose to which the money might be applied. With respect to this objection, Pollock, C.B. said, "It is conceded that the society might lend money to persons not members, and I have looked into the Act of Parliament to see whether it contains any provision excluding loans to members, but I find none. If, then, the society may lend to strangers, I see no reason why they should not lend to any of their own body; on the contrary, it is quite within the scope of the society." Parke, B. said, "there is nothing in the Act of Parliament to prevent the society from *purchasing* from its members the fee simple of an estate. Then why may they not take a mortgage of the

estate?" The objection was thus overruled. It was also further objected that the action was not brought with the approbation of the majority of members present at a "special meeting" as required by the rules, the evidence at the trial being that the action was brought with the approbation of the majority of members present at a "special general meeting" of the society; but Alderson, B. said, that "the meaning of a special meeting is, that the meeting shall not be convened unless the parties have notice of the purpose of the meeting. A meeting may be both general and special—general for the purpose of doing general business, and special for a particular purpose; then it becomes a special general meeting." And Rolfe, B. said, "a special general meeting is both special and general." Another objection was that the proper mode of proceeding was by reference to arbitration, according to the rules, and not by action. The court held that the rule in question did not make it imperative to refer a matter of this kind to arbitration, and that the rule applied only to differences respecting the construction of the rules.

In the course of the argument Parke, B. made the following observation:—"*The intention of the legislature was not to allow any one member to acquire a larger interest than* £150 *in respect of his share or shares. But that objection does not seem to have been taken at the trial.*" And in giving judgment, Pollock, C.B. said, that if that objection had been raised at the trial the court would probably have taken time to consider the construction of the Act. Parke, B. said, with respect to the question of the number of shares that any one member may hold, that point does not appear to have been taken at the trial, and therefore does not arise now. And Alderson, B. said, that if that point had been taken he should have desired time to consider *whether the meaning of the Act is not that each member is to have an interest to the extent of* £150 *and no more, whether in one or more shares.* —*National Building Society Journal.*

The above remark of Mr. Baron Parke has created considerable anxiety among persons connected with building societies, respecting the legality of the operations of existing associations, in which, either there is no limit to the amount of the interest, that a member may have in one society by the possession of several shares, or where

the limit is fixed at a large sum, such as £800 or £1000. If the limit were intended by the Act to be £150, no society would be of any practical service, since it would not enable a member to purchase a house by the means of an advance. For in general the greatest present advance on shares amounting to £150, would be only £75 or £80, and with so small a sum scarcely a hovel could be purchased. Such a restriction therefore could scarcely have been the intention of the legislature.

There is however some advantage to be derived from establishing a limit, not lower than £700, or £800, to the amount of advance that a member may obtain, as it is necessary to prevent the speculation of persons of a higher class, than the members for whom these institutions were originally intended, who become purchasers of houses, not for their own immediate occupation, but from the hope of deriving undue profit from the purchase.

APPENDIX.

THE following pages contain some elementary propositions appertaining to that part of the doctrine of compound interest, which relates more particularly to the system of Building Societies.

SECTION I.

ON THE ACCUMULATION OF A SINGLE SUM AT COMPOUND INTEREST.

ART. 1.—To find the amount S to which a sum P will accumulate in n years at compound *yearly* interest i per pound.

Since i is the interest on £1 for one year, or

P. i „ „ £P for the same time.

∴ The amount of P with interest in one year is P. $(1 + i)$.

Again the amount of P with interest in *two* years will of course be equal to its amount, at the end of *one* year, re-invested for a second year, or to the amount of P $(1 + i)$ with interest in one year; that is, it will be equal to

$$\mathrm{P}.(1+i) + i.\overline{\mathrm{P}.(1+i)}$$

$$= \mathrm{P}.(1+i)^2$$

Similarly the amount of P with interest in three years is

$$= \mathrm{P}.(1+i)^3$$

and so on for n years where n is any *integer*,

$$\therefore \mathrm{S} = \mathrm{P}.(1+i)^n \quad \ldots\ldots\ldots (1).$$

In the above the time is expressed in years, but from the nature of the reasoning equation (1) will represent the amount of P at the end of an *integral* number of any intervals of time, at the end of each of which interest is due after the rate of i per pound.

It is, however, not applicable when n is a fractional number of the form $n = n_1 + \frac{a}{b}$, where n_1 is an integer and $\frac{a}{b}$ a fraction of a year, as the interest was supposed only due at the *end* of successive equal intervals of time, and, theoretically speaking, no allowance of interest can be made for the broken portion $\frac{a}{b}$. In commercial questions, nevertheless, it is usual in such cases to calculate by equation (1) the amount due at the expiration of the last full period, and to add to it simple interest for the fractional remainder of the time; so that

The amount of P in $\left(n_1 + \frac{a}{b}\right)$ years

= amount of P in n_1 years + simple interest on that amount for the portion $\frac{a}{b}$ of a year.

$$= \mathrm{P}.(1+i)^{n_1} + \frac{a\,i}{b} \times \mathrm{P}\,(1+i)^{n_1}$$

$$= \mathrm{P}.(1+i)^{n_1}.\left(1 + \frac{a\,i}{b}\right) \ldots\ldots\ldots\ldots (2).$$

2.—If the interest be due in equal instalments $\frac{i}{m}$ at the end of each interval of time equal to the mth part of a year, the amount at the end of $m\,n$ intervals will be

$$\mathrm{S} = \mathrm{P}.\left(1 + \frac{i}{m}\right)^{m.n} \ldots\ldots\ldots (3).$$

This result can be adapted to the case of interest being paid or due half-yearly, quarterly, or monthly, by making $m =$ 2, 4, or 12 respectively.

3.—If the interest be supposed due momentaneously, or at the end of each moment of time, in equal portions $\frac{i}{m}$, m being indefinitely large, then the result in equation (3) assumes a peculiar form.

For, expanding by the Binomial Theorem,

$$S = P\left\{1 + \frac{m \cdot n}{1} \cdot \frac{i}{m} + \frac{m \cdot n \cdot (m \cdot n - 1)}{1 \cdot 2} \cdot \frac{i^2}{m^2} + \ldots \text{ &c.}\right\}$$

$$= P\left\{1 + \frac{n \cdot i}{1} + \frac{n \cdot i \cdot \left(n \cdot i - \frac{i}{m}\right)}{1 \cdot 2} + \text{ &c.}\right\}$$

$$= P\left\{1 + \frac{n \cdot i}{1} + \frac{(n \cdot i)^2}{1 \cdot 2} + \ldots\ldots\right\}, \text{ since the terms}$$

containing $\frac{i}{m}$, $\frac{i^2}{m^2}$, vanish, when m is indefinitely large.

$$\therefore \quad S = P e^{n i} \ldots\ldots\ldots\ldots (4).$$

e being the base of the Napierian or Hyperbolic logarithms, and = 2·71828 nearly. (See any Treatise on Algebra).

To this equation we will return further on.

4.—From the preceding equations it is seen that:

When interest is payable more frequently than once a year, there is a difference between the nominal *annual rate of interest, and the* true *rate or* actual annual interest *realised.*

For if i = the *nominal* yearly rate of interest per pound, and it be payable in m periodic equal portions $\frac{i}{m}$ in the course of a year, then supposing each instalment to be invested and to bear interest after the same nominal rate,

The *true* rate = the amount of £1 at the end of *one* year — £1.

$$= \left(1 + \frac{i}{m}\right)^m - 1 \ldots\ldots\ldots\ldots (5).$$

If the interest be realised momentaneously, then

The *true* rate of interest becomes $= e^{i} - 1 \ldots .$ (6).

Hence a table may be formed shewing the *true* rate per pound for various values of m.

If $m = 2$, the true rate for interest paid *half-yearly*

$$= \left(1 + \frac{i}{2}\right)^{2} - 1 = i + \frac{i^2}{4}$$

$m = 4$, the true rate for interest paid *quarterly*,

$$= \left(1 + \frac{i}{4}\right)^{4} - 1 = i + \frac{3}{8} i^2 + \frac{i^3}{16} \text{ nearly.}$$

$m = 12$, the true rate for interest paid *monthly*,

$$= \left(1 + \frac{i}{12}\right)^{12} - 1 = i + \frac{11}{24} i^2 + \frac{55}{432} . i^3 \text{ nearly.}$$

$m = 52$, the true rate for interest paid *weekly*,

$$= \left(1 + \frac{i}{52}\right)^{52} - 1 = i + \frac{51}{104} . i^2 + \frac{425}{2704} i^3 \text{ nearly.}$$

$m = \infty$, the true rate for *momentaneous* interest,

$$= e^{i} - 1 = i + \frac{i^2}{2} + \frac{i^3}{6} \text{ nearly.}$$

The two last results shew that the weekly and momentaneous rates of interest differ but little.

Table 4 has been formed by giving in the above to i different values for successive rates of interest, and it is accurate to three places of decimals.

5.—In equation (6) let $k = e^{i} - 1$.

Taking Hyperbolic logarithms,

$$i = \text{Log}_e (1 + k) \ldots\ldots\ldots\ldots\ldots\ldots (7).$$

and this equation gives the nominal annual rate of interest i,

realised momentaneously, which corresponds to a *yearly* rate of interest k. Example: Let $k = \frac{5}{100}$

$$\therefore\ i = \text{Log}_e\ (1.05) = .04879$$

or £4.879 per cent. per annum momentaneous interest is equivalent to 5 per cent. per annum paid yearly. (See Table 5).

6.—The general result in equation (1) can be put under the form

$$S = P\left(1 + \frac{(m.i)}{m}\right)^{m \cdot \frac{n}{m}}$$

Hence, *The amount, at the end of n years, arising from the accumulation of interest* yearly *at the* nominal *rate of i per pound, is equal to the amount, at the end of* $\left(\frac{n}{m}\right)$ *years, arising from the accumulation of interest m times a year at the* nominal *rate* $(m \,.\, i)$ *per pound:*

Or, in other words,

The amount of a given sum, at the end of any number of periods of time, does not depend on the *length* of time in each period, but only on the *number* of them, and the quantity of interest due or payable at the end of each.

Example: Let $m = 2$.

$$\therefore\ P\ (1+i)^n = P\left(1 + \frac{(2\,i)}{2}\right)^{2 \cdot \left(\frac{n}{2}\right)}$$

or the amount of P in n years at i per pound *nominal* rate of interest payable once a year, is equal to the amount obtained at the end of $\frac{n}{2}$ years at $2\,i$ per pound rate of interest payable half-yearly.

Referring to Table 6, if $n = 50$, and $i = .04$ payable *yearly*, the amount of £1 in 50 years is 7·10668, which is the amount that would be realised in 25 years at 8 per cent. rate of interest payable *half*-yearly.

7.—If the *amount* A of a sum P at the end of n years be given by the tables at *yearly* interest. The amount A_1 can be deduced when interest is payable m times a year.

$$\text{For } A_1 = P\left\{1 + \frac{i}{m}\right\}^{m \cdot n} = P\left(1 + i\right)^{n}\left\{\frac{\left(1 + \frac{i}{m}\right)^{m}}{1 + i}\right\}^{n}$$

$$= A\left\{\frac{1 + m \cdot \frac{i}{m} + \frac{m(m-1)}{1.2} \cdot \frac{i^2}{m^2} \cdot + \&c.}{1 + i}\right\}^{n}$$

$$= A\left\{\frac{1 + i + \frac{1.\left(1 - \frac{1}{m}\right)}{1.2} . i^2 + \&c.}{1 + i}\right\}^{n}$$

$$= A\left\{1 + \frac{\left(1 - \frac{1}{m}\right)}{1.2} . i^2 + \&c.\right\}^{n} \quad \text{nearly, and}$$

neglecting the higher powers of i, which, as i is a decimal fraction of the order $\frac{1}{10^2}$, may be done when n is not very large, we have

$$A_1 = A\left\{1 + \frac{n\left((1 - \frac{1}{m}\right)}{1.2} . i^2\right\} \text{nearly} \ldots\ldots\ldots (1).$$

8.—Remark. The preceding equations contain all the formulæ necessary for the determination of any question connected with the accumulation of a *single* sum from compound interest. Several results can be deduced from them, which are worthy of notice.

It is seen that the hypothesis of momentaneous interest con-

sidered in equation 4 introduces the base of the Napierian or Hyperbolic logarithms, which possesses many important properties. Although that hypothesis is not generally used, yet it gives rise to various theorems, which can be adapted with sufficient exactness to the actual conditions of practice.

9.—Equation (4) gives $S = Pe^{ni}$, $\therefore$ taking logarithms and denoting as before by Log_e the logarithm to the base e, we have

$$n \,.\, i \quad = \quad \text{Log}_e \left(\frac{S}{P}\right) \ldots\ldots\ldots\ldots (1).$$

$$= \text{a constant:}$$

or, supposing interest realised momentaneously, *The product of the nominal yearly rate by the number of years, in which a sum* P *will amount to* S, *is constant, or the same whatever be the rate of interest:* in other words, *If* P *amount to* S *in* N_1 *years at* i_1 *per pound interest, then* P *would amount to* S *in* $\frac{N_1 \,.\, i_1}{i_2}$ *years at* i_2 *rate of interest, or in* q.N *years at* $\frac{i}{q}$ *rate of interest.*

Example: By Table 6, £1 will amount to £7·38906 in 50 years at 4 per cent. momentaneous rate of interest. Hence £1 ought, by this theorem, to amount to the same sum in $\frac{50 \times 2}{4}$ years, or 25 years, at 8 per cent. momentaneous rate; which is also shewn by Table 6 to be the case.

10.—Let $S = f \,.\, P$ in equation 1 $\therefore$ $n \,.\, i = \text{Log}_e f$

$$\therefore \quad n = \frac{\text{Log}_e f}{i} \ldots\ldots\ldots\ldots (2).$$

or, *The number of years, in which, by the accumulation of*

momentaneous interest, a sum will become f-fold its original value, is equal to the $Log_e f$ *divided by the nominal yearly rate per pound.*

$$\text{If } f = 2, \quad n_2 = \frac{\text{Log}_e 2}{i}$$

$$= \frac{.693147}{i} \ldots\ldots\ldots\ldots (3).$$

See the extract from Hyperbolic Logarithmic Tables contained in Table 12.

$$\text{If } f = 3, \quad n_3 = \frac{\text{Log}_e 3}{i}$$

$$= \frac{1.0986}{i} \ldots\ldots\ldots\ldots (4).$$

And so on for other values of f.

If for i we put $\frac{\text{I}}{100}$, I being the interest per cent., we have,

from eq^n 3. *The number of years in which money will become doubled at* I *per cent. rate of interest realised momentaneously is equal to* 69·3147, *divided by the rate of interest* I.

from eq^n 4. *The number of years in which money will become trebled is equal to* 109·86, *divided by the rate of interest.*

11.—*Respecting the Time of doubling at* yearly *interest.*

If in Equation (1) Art. 1, or $S = P(1 + i)^n$ .....(1) we suppose $S = 2P$, then $2 = (1 + i)^n$ .....(2) which shews that n cannot be an integer, as $1 + i$ is a fraction. But, as we have stated before, equation (1) can only be applied

when n is an integer, hence it will not serve to determine the time of doubling when interest is paid *yearly;* nor can any equation do so, as, theoretically speaking, there can be no time of doubling for interest expressed by a commensurable fraction, and paid at the *end* of finite intervals.

Most writers have overlooked this consideration, and have given the values of n deduced from $n = \frac{\text{Log}_e 2}{\text{Log}_e(1+i)}$ for various values of i, as being the corresponding times of doubling at yearly interest (see Table 7). This amounts to supposing the money to accumulate *continuously* by a compound momentaneous interest $\text{Log}_e(1+i)$ throughout the whole time, in which on such an hypothesis it would double, instead of increasing as it does per saltum at the *end* of each year; or that the expressions $(1+i)^n = 2$ and $e^{n\text{Log}_e(1+i)} = 2$, which represent different hypotheses, are interchangeable.

The results thus obtained differ, however, but little from those that might be deduced from the *commercial* view of the question, see Equation (2), Art. 1, which supposes a proportionate amount of the *yearly* rate of interest to be paid, when there is a fractional number of days over.

12.—When interest is payable m times a year, Equation (3) Art. 2 gives $S = P\left(1+\frac{i}{m}\right)^{m\,n}$, where $m\,.\,n$ is an integer.

$$\therefore \text{Log}_e \frac{S}{P} = m\,.\,n\,.\ \text{Log}_e\left(1+\frac{i}{m}\right)$$

$$\text{Let } S = f\,.\,P$$

then we may still assume the equation to hold approximately, whether $m\,.\,n$ remain an integer or not, provided the intervals of conversion of interest be frequent.

$$\therefore \quad m\,.\,n = \frac{\text{Log}_e f}{\text{Log}_e\left(1+\frac{i}{m}\right)} \quad \ldots\ldots\ldots(1).$$

$$= \text{Log}_e f \cdot \left\{ \frac{1}{\frac{i}{m} - \frac{i^2}{2m^2} + \frac{i^3}{3m^3} - \&c.} \right\}$$

$$= \frac{\text{Log}_e f}{\left(\frac{i}{m}\right)} \left\{ 1 + \frac{i}{2m} - \frac{i^2}{12m^2} + \&c. \right\} \text{ by effecting the division.}$$

And when f is not very large we have with sufficient approximation:—The number of finite intervals of time (each equal to the m^{th} part of a year), at the end of which money will accumulate to f-fold its original value, is

$$= \frac{\text{Log}_e f}{\left(\frac{i}{m}\right)} + \frac{\text{Log}_e f}{2}$$

$$= \frac{\text{Log}_e f}{\text{rate of interest per pound in each interval}} + \frac{\text{Log}_e f}{2} \text{ nearly..(2)}$$

since i is a decimal of the 2d order, and the higher powers of $\frac{i}{m}$ may be neglected.

13.—Let $f = 2$ then $\text{Log}_e 2 = \cdot 693147$

$\therefore$ The number of intervals of time (equal to m^{th} part of a year) at the end of which money will double $= \frac{\cdot 693147}{\left(\frac{i}{m}\right)} + \cdot 3465$

$$= \frac{69 \cdot 3147}{\text{rate of interest per cent. in each interval.}} + \cdot 3465 \text{ nearly...(3)}$$

14.—The results in Table 7, and Equation 3, shew that, generally, as regards the *integral* part of the time of doubling, we may assume for the sake of memory, that the

$$\text{Time of doubling} = \frac{70}{\text{rate of interest per cent.}} \text{ nearly,}$$

70 being the whole number next above 69·3147.

Or, "*The number of years in which money will double itself at compound interest is, in round numbers, equal to that whole number, which is nearest to the quotient obtained on dividing* 70 *by the rate of interest per cent.*"

When I is greater than 10, a higher dividend than 70 must be taken. In the generality of commercial operations, however, interest does not exceed 10 per cent., and this approximate rule will suffice for all practical purposes.

15.—In simple interest there is a corresponding property. If N = number of years in which a sum P will double itself at simple interest I per cent.

$$P + N.\frac{I.P}{100} = 2P$$

$$\therefore \quad N.I. = 100$$

$$\therefore \quad N = \frac{100}{I}.$$

SECTION II.

OF PRESENT VALUE AND DISCOUNT.

ART. 16.—When money is calculated at compound interest, the present value or sum to be given at present instead of a payment due at the end of a certain number of years, must be such that, if laid out at interest for that time, it would become equal to the amount due. The problem of determining the *present value* is consequently the inverse of finding the *amount*, to which a sum of money would accumulate at compound interest. The principles adduced in Section I. will apply here.

The discount on a given sum is the difference between its amount at the future time when it is due and its present value.

Let P = the present value,

S = the sum due at the end of n years (called the amount in Section I.)

i = the yearly rate of interest per pound,

then P invested at compound interest i for n years must become equal to S $\therefore$ by Art. 1, $P \cdot (1 + i)^n = S$

$$\therefore P = \frac{S}{(1 + i)^n} = S\,(1 + i)^{-n} \quad \ldots\ldots\ldots (1).$$

where n is an integer.

And if D = the discount,

$$D = S - P$$

$$= S\left\{1 - (1 + i)^{-n}\right\} \quad \ldots\ldots\ldots\ldots\ldots (2).$$

If the value of D be expanded by the Binomial Theorem,

$$D = S\left\{1 - (1 - n.i + \frac{n(n+1)}{1.2}.i^2 - \text{\&c.}\ldots)\right\}$$

$$= S.ni - \text{\&c.}$$

shewing that the common rule in practice of taking $D = S\,n\,i$ is found by neglecting the other terms of the series.

If n be not a whole number, then Equation (2) Art. 1, must be used.

17.—Since $P = \dfrac{S}{(1+i)^n}$

if we have a table shewing the amount $(1+i)^n$ to which £1 will accumulate in n years at compound interest, the present value of any sum S due in n years will be equal to the quotient of S divided by $(1+i)^n$.

Example: To find the present value of £30 due at the end of 5 years, supposing interest to be compound at 3 per cent.:—

Now Table 3 shews that the amount of £1 in 5 years at 3 per cent. is £1·1592.

$$\therefore \text{ the present value of £30} = \frac{30}{1{\cdot}1592} = \text{£25·8783}$$

18.—If the interest, instead of being supposed payable only *once* a year, be payable in m equal portions $\frac{i}{m}$ m times a year; then, as before, $P\left(1+\frac{i}{m}\right)^{m\,n} = S$

$$\therefore P = S.\left(1+\frac{i}{m}\right)^{-m\,n} \quad \ldots\ldots\ldots\ldots\ldots (3).$$

$$D = S\left\{1 - \left(1+\frac{i}{m}\right)^{-m\,n}\right\}$$

19.—If the interest be realised momently or $m = \infty$, then, by Art. 3, $P \cdot e^{n i} = S$

$$\therefore \quad P = S e^{-n i} \quad \ldots\ldots\ldots\ldots\ldots\ldots (4).$$
$$D = S \left(1 - e^{-n i}\right)$$

It will be observed, that the problems connected with *present values* differ from those relating to the *amount* of money by the introduction of $-n$ for $+n$.

20.—It has been shewn that, when interest is supposed payable *once* a year, the present value of a sum due n years hence is $= S \cdot (1 + i)^{-n}$, but when interest is supposed payable m times a year, the present value $= S \cdot \left(1 + \frac{i}{m}\right)^{-m n}$.

Now $\left(1 + \frac{i}{m}\right)^{m}$ is greater than $(1 + i)$, which can be seen at once by expanding $\left(1 + \frac{i}{m}\right)^{m}$.

Hence, $\left(1 + \frac{i}{m}\right)^{m n}$ is $> \left(1 + i\right)^{n}$

$$\therefore \quad \left(1 + i\right)^{-n} \text{ is } > \left(1 + \frac{i}{m}\right)^{-m n}$$

$$\therefore S \cdot \left(1 + i\right)^{-n} \text{ is } > S \left(1 + \frac{i}{m}\right)^{-m n}$$

Or, *The present value of any sum* S *due n years hence, is greater, if interest be supposed payable only* once *a year, than if it be supposed payable m times a year.*

Similarly: *The present value is less in proportion to the greater frequency of the intervals in each year, at which the interest is supposed payable.*

21.—If the present value P of a sum S due n years hence be given by the tables, supposing interest payable *once* a year, the present value P_1 can be deduced when interest is payable m times a year.

$$\text{For } P_1 = S.\left(1+\frac{i}{m}\right)^{-mn} = S\left(1+i\right)^{-n}.\left\{\frac{\left(1+\frac{i}{m}\right)^{m}}{1+i}\right\}^{-n}$$

$$= P.\left\{\frac{1+m.\frac{i}{m}+\frac{m.(m-1).i^2}{1.2}.\frac{1}{m^2}+\&c...}{1+i}\right\}^{-n}$$

$$= P\left\{\frac{1+i+\frac{1.\left(1-\frac{1}{m}\right).i^2}{1.2}+\&c...}{1+i}\right\}^{-n}$$

$$= P\left\{1+\frac{1-\frac{1}{m}}{1.2}.i^2\right\}^{-n} \text{ nearly, whence neglecting}$$

higher powers of i, which, i being a decimal fraction of the order $\frac{1}{10^2}$, may be done provided n be not very large.

$$P_1 = P\left\{1-\frac{n.\left(1-\frac{1}{m}\right)}{1.2}.i^2\right\} \text{nearly.....(1).}$$

Example: Table 8 shews that, when interest is payable yearly, the present value P of £10 due 4 years hence at 5 per cent. is = 8·227.

If interest be payable half-yearly, or $m = 2$

$$\text{Then } n.\frac{\left(1-\frac{1}{m}\right)}{1.2}.i^2 = 4.\frac{\left(1-\frac{1}{2}\right)}{2}(\cdot 05)^2$$

$$= \cdot 0025$$

$$\therefore P_1 = 8{\cdot}227\ (1 - \cdot 0025)$$

$$= 8{\cdot}227 \times {\cdot}9975 = 8{\cdot}2064.$$

22.—Respecting the difference between the *present values* of the same sum S due at the end of n years, according as it is calculated at compound interest i_1 per pound or i_2 per pound:—

Let P_{i_1} = present value at the rate of interest i_1

P_{i_2} = ... i_2

If interest be realised only *once* a year,

$$P_{i_1} - P_{i_2} = S(1 + i_1)^{-n} - S(1 + i_2)^{-n}$$

$$= S\{(1 + i_1)^{-n} - (1 + i_2)^{-n}\} \quad .. (1).$$

If interest be realised m *times* a year,

$$P_{i_1} - P_{i_2} = S\left\{\left(1 + \frac{i_1}{m}\right)^{-mn} - \left(1 + \frac{i_2}{m}\right)^{-mn}\right\} \quad ..(2).$$

If interest be realised *momently*,

$$P_{i_1} - P_{i_2} = S\{e^{-ni_1} - e^{-ni_2}\} \quad ..... (3).$$

From these equations we see, that the difference between the present values of a sum of money S due in n years, estimated at different rates of interest, increases up to a certain point with the value of n and then diminishes. That is to say, if one person A obtain a present loan P_{i_1} from another person B, in return for which he is to pay S at the end of n years; and A, out of the money he has received, lend a sum P_{i_2} to a third party C, for which at the end of the n years he is also to receive S, which will enable to pay off his debt to B, then there is some value of n, such that the immediate profit derived by A is greatest.

[NOTE to Art. 22.—When the interests are momentaneous, or the expression is a continuous function of the variable n, the maximum value can be determined at once by differentiation.

Taking equation (3), let

$$u = \{e^{-ni_1} - e^{-ni_2}\} = \text{a maximum},$$

i_1 beng less than i_2.

Differentiating with regard to n, we get by the property of maxima and minima: (see any Treatise on the Differential Calculus),

$$\frac{du}{dn} = -e^{-n i_1}.\ i_1 + e^{-n i_2}.\ i_2 = 0$$

$$\therefore \quad \frac{e^{-n i_1}}{e^{-n i_2}} = \frac{i_2}{i_1}$$

$$\therefore \quad e^{n (i_2 - i_1)} = \frac{i_2}{i_1}$$

$$n.\ (i_2 - i_1) = \text{Log}_e\, i_2 - \text{Log}_e\, i_1$$

$$n = \frac{\text{Log}_e\, i_2 - \text{Log}_e\, i_1}{i_2 - i_1} \ldots\ldots (4).$$

To determine whether this result gives a maximum or minimum, we must differentiate a second time:

$$\therefore \quad \frac{d^2u}{dn^2} = e^{-n i_1}.\ i_1^{\,2} - e^{-n i_2}.\ i_2^{\,2}$$

$$= -e^{-n i_2}.\ i_2^{\,2} \left\{ 1 - e^{n (i_2 - i_1)}.\ \frac{i_1^{\,2}}{i_2^{\,2}} \right\}$$

$$= -e^{-n i_2}.\ i_2^{\,2} \left\{ 1 - \frac{i_2}{i_1} \cdot \frac{i_1^{\,2}}{i_2^{\,2}} \right\}$$

(by substituting in the bracket the value of n found above),

$$= -e^{-n i_2}.\ i_2 \left\{ i_2 - i_1 \right\},$$

which is *negative*, since i_1 was assumed to be less than i_2;
$\therefore$ the value of n in equation (4) gives the number of years, for which the difference of the present values is a maximum.

Example: Let $i_1 = \cdot 05$, $\quad i_2 = \cdot 06$.

$$n = \frac{\text{Log}_e\, 6 - \text{Log}_e\, 5}{\frac{6 - 5}{100}}$$

$$= 100\ (\text{Log}_e\, 6 - \text{Log}_e\, 5)$$

$$= 100\ (1{\cdot}791759 - 1{\cdot}609437) \text{ see Table 12.}$$

$$= 18.2322 \text{ years,}$$

That is to say, the difference, between the present values of the same sums discounted respectively at 5 and 6 per cent. momentaneous interest, is greatest, when they are due at the end of 18·2322 years.

The above process will not serve for *yearly* interest, as the function of n varies by *finite* yearly increments in the value of n, and differentiation does not apply. But the time may be deduced indirectly from equation (4) by substituting, for the *yearly* interest, the equivalent momentaneous rate.]

SECTION III.

ON ANNUITIES.

ART. 23.—To find the *amount* of a yearly annuity of £ a, payable for n years, supposing compound yearly interest at i per pound.

Unless the contrary be mentioned, annuities are supposed payable at the *end* of each year; and on this hypothesis tables are usually constructed. It will hereafter be shewn how such tables can be adapted to find the *amount* or *present value* of annuities payable at the *beginning* of each year or otherwise.

Let A = the amount of the annuity a for n years;

Then A = the sum of the amounts to which each periodic instalment a of the annuity separately accumulates at compound interest.

Now the *first* instalment a accumulates during $(n-1)$ years, and therefore amounts to $a(1+i)^{n-1}$. The *second* instalment bears compound interest for one year less, and therefore amounts to $a(1+i)^{n-2}$, and so on. The *last* instalment a being paid at the end of the n^{th} year bears no interest, and its amount therefore is merely a.

$$\therefore A = a(1+i)^{n-1} + a.(1+i)^{n-2} + \ldots + a(1+i) + a$$

$$= a\,\frac{\{(1+i)^n - 1\}}{(1+i) - 1} \quad \text{(by the principle of geometric series.)}$$

$$\therefore A = a\,.\,\frac{(1+i)^n - 1}{i} \quad \ldots\ldots\ldots\ldots\ldots\ldots (1)$$

In this equation the duration of the annuity is represented by n *years*, but it is obviously true whatever be the finite intervals of time, of which n is an integral number, and for each of which interest after the rate of i per pound is due. When solved with regard to any of the quantities which enter into it, any one of them can be found in terms of the rest. It may be mentioned, that the solution required for determining i presents peculiar difficulties, from the equation for solution being of the n^{th} order.—(See Art. 37 in this Section.)

24.—Equation (1) will admit of many varieties of form according to the different conditions affecting the quantities which enter it:—As whether the annuity or the interest are paid in more frequent intervals than once a year; or whether the periods at which the annuity is supposed payable are the same, or differ from those at which the interest is due. In this Section we shall however notice only those cases, where the periods are the same for the instalments both of annuity and interest.

Let the annuity and interest be both payable m times a year in equal portions $\frac{a}{m}$, $\frac{i}{m}$ respectively, i being the *nominal yearly* rate of interest per pound;

Then we have to find the *amount* of an annuity $\frac{a}{m}$ payable during $m\ n$ intervals, each equal to the m^{th} part of a year, making the calculations at $\frac{i}{m}$ rate of interest. Hence equation (1) at once gives, putting $\frac{a}{m}$, $\frac{i}{m}$ and $m \cdot n$, for a, i and n respectively,

$$\mathrm{A} = \left(\frac{a}{m}\right) \frac{\left(1 + \frac{i}{m}\right)^{m\,n} - 1}{\left(\frac{i}{m}\right)}$$

$$\therefore \mathrm{A} = a \cdot \frac{\left\{\left(1 + \frac{i}{m}\right)^{m\,n} - 1\right\}}{i} \quad \ldots\ldots(2)$$

And by making $m = 2$, or 4, &c., we have the amount of annuities supposed payable half-yearly, quarterly, &c.

25.—If the annuity and interest be both supposed payable at momentaneous intervals, then,

$$A = \frac{a}{i}\left(e^{n \cdot i} - 1\right) \ldots\ldots\ldots\ldots\ldots (3)$$

26.—To find the *present value* of a yearly annuity of £a for n years, payable at the *end* of each year.

Let P = present value required;

Then P is the *sum* of the *present values* of each of the annuity payments discounted at compound interest.

Now the present value of the 1st annuity payment of £a, discounted for 1 year, is $\frac{a}{1+i}$

„ the present value of the 2nd discounted for 2 years, is $\frac{a}{(1+i)^2}$

„ the present value of the 3rd discounted for 3 years, is $\frac{a}{(1+i)^3}$

&c. &c.

Similarly the present value of the last or n^{th} annuity payment of £a discounted for n years is $\frac{a}{(1+i)^n}$

$$\therefore P = a\left\{\frac{1}{(1+i)} + \frac{1}{(1+i)^2} + \ldots\ldots + \frac{1}{(1+i)^n}\right\}$$

And this is true whatever be the value of n.

Summing this series by the rule of geometric progression,

$$P = a\left\{\frac{1 - \frac{1}{(1+i)^n}}{i}\right\} = a \cdot \left\{\frac{1 - (1+i)^{-n}}{i}\right\} \ldots (1)$$

Tables 9, 10 and 11 give the values of annuities at various rates of interest.

27.—The result in Art. 26 might have been obtained directly by observing, that the present value of an annuity for n years is equal to the present value of the *amount* of the annuity at the end of n years discounted for that time.

$$\therefore \quad P = \frac{A}{(1+i)^n}$$

$$= \frac{1}{(1+i)^n} \cdot a \cdot \left\{\frac{(1+i)^n - 1}{i}\right\} \quad \text{(By Art. 23.)}$$

$$\therefore \quad P = a \cdot \frac{\left(1-(1+i)^{-n}\right)}{i}, \text{ as before.}$$

28.—If the annuity and interest be payable in m equal portions each year, the present value becomes

$$P = \frac{a}{m} \cdot \frac{1-\left(1+\frac{i}{m}\right)^{-mn}}{\frac{i}{m}}$$

$$= \frac{a}{i} \cdot \left\{1-\left(1+\frac{i}{m}\right)^{-mn}\right\} \ldots\ldots (2)$$

And by putting $m = 2$, 4, &c. we have the present value of annuities payable half-yearly or quarterly, &c.

29.—* If the annuity, as well as the interest, be payable momently, then

$$P = \frac{a}{i}\left(1 - e^{-ni}\right) \ldots\ldots\ldots\ldots (3)$$

30.—To determine the relation between the *amounts* of a yearly annuity of £1, according as it is supposed payable for n years, at the *end* or at the *beginning* of each year.

Let A_n = the amount of annuity for n years, payable at the *end* of each year;

Then A_{n+1} = do. for $(n+1)$ years, &c.

Also let A'_n = do. for n years payable at the *beginning* of each year.

Then, as in Art. 23,

$$A_{n+1} = (1+i)^n + (1+i)^{n-1} + \ldots + (1+i) + 1$$

and $$A'_n = (1+i)^n + (1+i)^{n-1} + \ldots + (1+i).$$

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* The results given above and in Art. 25 for momentaneous interest can be found at once thus: —

Let the time, during which the annuity is payable, be represented by T;

dt = an element of time;

a_1 i_1 be the rates of annuity and interest respectively payable in each unit of time;

$\therefore a_1\, dt$ = the rate of annuity in the time dt

$$\therefore \text{Amount of the annuity} = \int_0^T a_1 . e^{i_1 t}\, dt = a_1 . \frac{e^{i_1 T} - 1}{i_1}$$

Also

$$\text{Present value of the annuity} = \int_0^T a_1 . e^{-i_1 t}\, dt = a_1 . \frac{1 - e^{-i_1 . T}}{i_1}$$

the integration being effected between the limits $t = o$ and $t = T$.

This value of A^1_n is found by remarking that the *first* instalment of the annuity is improved for n years, and the *last* instalment for *one* year.

$$\therefore \quad A^1_n = A_{n+1} - 1 \ldots\ldots\ldots (1)$$

This formula is important, as it enables the amount of yearly annuities, payable at the beginning of each year, to be determined from a Table for annuities payable at the end of each year.

31.—To determine the *present value* of an annuity of £1 a year for n years, payable at the *beginning* of each year, from a Table giving the present value of the same annuity, supposing it paid at the *end* of each year.

Let P_{n-1} = the present value of an annuity for $(n-1)$ years, payable at the end of each year;

P^1_n = the same for n years, payable at the beginning of each year.

Now, by Art. 26,

$$P_{n-1} = \frac{1}{(1+i)} + \frac{1}{(1+i)^2} + \ldots + \frac{1}{(1+i)^{n-1}}$$

$$P^1_n = 1 + \frac{1}{(1+i)} + \frac{1}{(1+i)^2} + \ldots + \frac{1}{(1+i)^{n-1}}$$

$$\therefore \quad P^1_n = 1 + P_{n-1} \quad \ldots\ldots\ldots\ldots\ldots (2)$$

Example (see Table 10).

We find that £4·5797 is the *present value* of £1 a year payable at the *end* of each year for 5 years, calculated at 3 per cent. rate of interest;

Therefore £5·5797 is the present value of £1 a year payable at the *beginning* of each year for 6 years.

32.—In the preceding propositions we have determined the amount and present value of annuities. We shall now proceed to examine the practical application of the formulæ.

A given sum P is borrowed for n years. To determine what annuity a, paid for that time in m equal portions $\frac{a}{m}$ every year, will pay off the principal and interest thereon also supposed due m times a year. $m \,.\, n$ being an integer.

$$\text{Here } P = \frac{a}{m} \cdot \frac{1 - \left(1 + \frac{i}{m}\right)^{-m \,.\, n}}{\frac{i}{m}}, \qquad \text{(Art. 28.)}$$

$$\therefore \left(\frac{a}{m}\right) = \frac{P\left(\frac{i}{m}\right)}{1 - \left(1 + \frac{i}{m}\right)^{-m \,.\, n}} \ldots\ldots\ldots\ldots (1).$$

33.—Let the time n be such that the sum P, if unpaid, would accumulate at compound interest to f-fold its original value. See Art. 12.

$$\text{Then } f \,.\, P = P \left\{1 + \frac{i}{m}\right\}^{m \,.\, n.}$$

$$\therefore \text{ From Art. 32 above, } \left(\frac{a}{m}\right) = \frac{f}{f-1} \,.\, P \left(\frac{i}{m}\right) \ldots\ldots\ldots (2).$$

$$\text{or, } a = \frac{f}{f-1} \cdot P \,.\, i \ldots\ldots\ldots\ldots (3).$$

That is: If a sum of money be borrowed for such a time, that if unpaid it would amount to f-fold its original value, then the annuity which would pay it off, principal and interest, in that time is equal to $\frac{f}{f-1}$ times one year's interest on the debt.

The accuracy of the theorem requires that the intervals, at which the instalments of the annuity are paid, should be aliquot parts of the whole period over which it extends. When the interval is small, as in the case of monthly payments, the formula (2) may be applied without reservation, and differs by an inappreciable quantity from the truth; and even for yearly payments the error in (3) is practically of no importance.

In proceeding to apply this theorem, we shall consider f as given, and equal to some whole number, in which case $m \cdot n$ is always fractional, but this circumstance, for the reasons above given, will not interfere with the practical accuracy of the solution.

34.—Let f 2, or the time be that in which money would double at compound interest.—See Art. 13.

$\therefore$ From equation (3), the annuity $= 2\ \mathrm{P}.i$ ... .. (1)

That is to say: If a sum of money be borrowed for such a number of years, that if unpaid it would by yearly compound interest double itself, then the debtor can liquidate his debt with interest in that time by a yearly annuity equal to *twice* one year's interest on the sum borrowed; the last payment of the debtor being a fractional portion of the year's annuity proportionate to the fractional number of days.

35.—If the payments be made monthly, as in Building Societies:

The monthly payment = twice the interest for one month.

Example 1.—In a 14 years' Building Society, calculated at 5 per cent. monthly rate of interest, the shares are £120, of which the present value is £60, because money doubles itself in nearly 14 years at 5 per cent.; to find the monthly payment $\frac{a}{12}$ for 14 years, which will pay off a debt of £60, including principal and interest thereon as it accrues,

$$\text{Here} \quad \mathrm{P} = 60$$

$$i = \cdot 05$$

$$\frac{i}{12} = \frac{\cdot 05}{12}$$

$$\therefore \text{ the monthly payment } \left(\frac{a}{12}\right) = \mathrm{P} \times \frac{2\,i}{12} = \text{£}\cdot 5.$$

$$= 10^{\text{sh}}$$

That is to say, 10^{sh} a month for nearly 14 years will pay off a debt £60 borrowed at the beginning.

This explains the principle of those Societies that charge 10^{sh} a month for that purpose.

Example 2.—In 10 years' Societies formed on a basis of 7 per cent.

$$\text{As before, } \mathrm{P} = 60, \text{ but } i = \cdot 07.$$

$$\therefore \text{ the monthly payment } \left(\frac{a}{12}\right) = \mathrm{P} \times \frac{2\,i}{12}$$

$$= 60 \times \frac{\cdot 14}{12} = \text{£}\cdot 7$$

$$= 14^{\text{sh}}$$

Therefore a monthly payment of 14^{sh} for 10 years will pay off the debt £60 with interest. Hence the charge of 14^{sh} a month in such Societies.

36.—If P be a present sum borrowed, and it be determined to set aside every year a certain proportionate amount (as c per cent.) in the shape of a repayment annuity to repay principal and interest at the nominal yearly rate of i per pound:—To determine the number of years n in which the debt would be cleared off.

Here the annuity repayment is $\frac{c}{100} \cdot \mathrm{P}$

$$\text{Hence} \quad \mathrm{P} = \frac{c\,\mathrm{P}}{100} \cdot \left\{ \frac{1 - (1+i)^{-n}}{i} \right\}$$

$$\therefore \frac{100.i}{c} = 1 - (1+i)^{-n}$$

$$(1+i)^{-n} = 1 - \frac{100.i}{c}$$

$$-n.\,\mathrm{Log.}\,(1+i) = \mathrm{Log.}\left(1 - \frac{100.i}{c}\right)$$

$$n = \frac{\mathrm{Log.}\left(\frac{c}{c - 100.i}\right)}{\mathrm{Log.}\,(1+i).} \quad \ldots\ldots\ldots\ldots (1).$$

37.—To determine the rate of interest at which a given annuity will amount to a given sum in a stated number of years:

Let a = given annuity;

n = given number of years;

A = the amount;

i = rate of interest per pound;

$$\text{then } \mathrm{A} = \frac{a}{i}\left\{ \overline{1+i}^{n} - 1 \right\}$$

$$\therefore (1+i)^{n} = 1 + \frac{\mathrm{A}}{a}\, i$$

No complete method has yet been discovered for solving this equation of the n^{th} degree; several modes of approximation have however been given by various eminent writers on this subject, which serve to determine the value of i with great exactness, although they are rather complicated in their application. The formulæ are obtained by expanding $(1 + i)^n$ by the Binomial theorem, and deducing a result by neglecting terms involving powers of i above the third. The following, deduced by Baily, appears to give the nearest approximation:

$$\text{Let } d = \left\{\frac{A}{a \,.\, n}\right\}^{\frac{2}{n-1}} - 1$$

$$\text{Then } i = \frac{\{12 + (n+1) \,.\, d\}\, d}{12 + 2\,(n+1)\, d} \quad \ldots\ldots\ldots (1)$$

For ordinary practical purposes a value, which can be corrected by logarithms, may be deduced in the following manner from a table giving the *amounts* of annuities at successive rates of interest.

Let A_{i_1} = the amount of £1 a year in n years at i_1 per pound rate of interest;

$A_{(i_1 - \frac{1}{100})}$ = the amount at $\left(i_1 - \frac{1}{100}\right)$ per pound rate of interest;

Then supposing the amounts for consecutive rates of interest to ascend by equal differences, we have, whether i be greater or less than i_1, as the signs will rectify themselves:

$$\frac{i - i_1}{i_1 - (i_1 - \frac{1}{100})} = \frac{\frac{A}{a} - A_{i_1}}{A_{i_1} - A_{(i_1 - \frac{1}{100})}}$$

$$\therefore \quad i = i_1 + \frac{\frac{A}{a} - A_{i_1}}{100\,(A_{i_1} - A_{(i_1 - \frac{1}{100})})} \quad \ldots (2)$$

This result will be slightly in excess, because in reality the difference between successive amounts of annuities increases more rapidly than the corresponding increments of interest.

Example: Let £6 a year amount to £120 in 10 years at i per pound yearly interest, then $\frac{A}{a} = 20$, $n = 10$.
To obtain the nearest approximation, we will take i_1 equal to the highest rate in Table 9, which is 10 per cent., whence

$$\begin{aligned} A_{\cdot 10} &= 15{\cdot}9374 \\ A_{\cdot 09} &= 15{\cdot}1929 \\ \therefore \quad i &= {\cdot}10 + \frac{20 - 15{\cdot}9374}{15{\cdot}9374 - 15{\cdot}1929} \\ &= {\cdot}15 \text{ nearly.} \end{aligned}$$

One or two trials by logarithms, on substituting this value in the equation:

$$10 \text{ Log.}(1 + i) = \text{Log.}(1 + 20\,i)$$

give the correct value $i = 14{\cdot}5$

38.—To determine the value of i when the present value, the annuity, and the number of years are given.

The equation for solution is $P = a \cdot \frac{1 - (1 + i)^{-n}}{i}$ which presents the same difficulty as that in Art. 37. The nearest approximate formula is that given by Baily:

$$i = \frac{\{12 - (n-1)\,d\} \cdot d}{12 - 2\,(n-1)\,d} \quad \ldots\ldots\ldots\ldots (3)$$

where $d = \left\{\frac{an}{P}\right\}^{\frac{2}{n+1}} - 1$

For practical purposes let, as before, Pi_1, $P_{(i_1 - \frac{1}{100})}$ be the present values of an annuity of £1 a year at the two highest

rates of interest given by the tables. Then assuming the present value of an annuity to decrease uniformly as the interest increases, we have

$$\frac{i - i_1}{i_1 - (i_1 - \frac{1}{100})} = \frac{P_{i_1} - \frac{P}{a}}{P_{(i_1 - \frac{1}{100})} - P_{i_1}}$$

$$\therefore \quad i = i_1 + \frac{P_{i_1} - \frac{P}{a}}{100\,(P_{(i_1 - \frac{1}{100})} - P_{i_1})} \ldots\ldots (4)$$

which will give i greater or less than i_1 according as P_{i_1} is greater or less than $\frac{P}{a}$. The true value can be obtained thence in one or two trials by logarithms.

SECTION IV.

ART. 39. — In a permanent Building Society the Investers subscribe with the view of receiving, at the end of a given time, certain shares, which are equivalent to their payments, with compound yearly interest, after the rate of i per pound. The subscriptions are, however, lent to borrowers at i_1 per pound rate of interest, i_1 being greater than i. The payments of the Borrowers are made at the end of each year, so as to repay principal and interest in a given term of years, which is the same for all. To determine the advantage derived by the society by the yearly difference $(i_1 - i)$ in the rates of interest, or in other words, *what portion of the repayment income* may be annually written off as profit.

Let a = the yearly income received in repayment of various loans amounting to P.

x = the annual profit.

n = the term of years for which P is lent.

$$\therefore \mathrm{P} = a \cdot \frac{1 - (1 + i_1)^{-n}}{i_1}$$

Now at i per pound rate of interest $(a - x)$ would have been the annual repayment.

$$\therefore \mathrm{P} = (a - x)\,\frac{1 - (1 + i)^{-n}}{i}$$

$$\therefore a \cdot \frac{i}{i_1} \cdot \frac{1 - (1 + i_1)^{-n}}{1 - (1 + i)^{-n}} = a - x$$

$$\therefore x = a \cdot \left\{ 1 - \frac{i}{i_1} \cdot \frac{1 - (1 + i_1)^{-n}}{1 - (1 + i)^{-n}} \cdot \right\} \ldots\ldots (1).$$

When the society lends for various periods, or different values of n, then x also varies; and the portion of the repayment income, which may be annually written off as profit, will be a mean between the values of x, corresponding to the different values of n. See clause 12, in the set of rules given in Chapter VI. for a permanent Building Society.

40.—A member borrows £P for n years at i_1 per pound rate of interest. This loan he is to repay by periodic instalments including principal and interest. To find the *difference* between the requisite payments according as they are annual or monthly.

If he pay *annually*, let a = annual payment.

monthly, $\frac{b}{12}$ = monthly payment.

$$\therefore \quad \mathrm{P} = a\,\frac{1-(1+i_1)^{-n}}{i_1} \qquad \ldots\ldots (1).$$

$$\text{Or,} \quad \mathrm{P} = \frac{b}{12}\cdot\frac{1-\left(1+\frac{i_1}{12}\right)^{-12\,.\,n}}{\frac{i_1}{12}} \qquad \ldots\ldots (2).$$

$$\therefore\ 0 = a.\left\{1-(1+i_1)^{-n}\right\} - b\left\{1-\left(1+\frac{i_1}{12}\right)^{-12\,n}\right\}$$

$$b = a\,.\,\frac{1-(1+i_1)^{-n}}{1-\left(1+\frac{i_1}{12}\right)^{-12\,n}}$$

$$\therefore\ a-b = a\,.\,\frac{(1+i_1)^{-n}-\left(1+\frac{i_1}{12}\right)^{-12\,n}}{1-\left(1+\frac{i_1}{12}\right)^{-12\,n}} \qquad \ldots\ldots (3).$$

In the permanent society described in Chapter IV. the repayments are calculated by equation (1). If it were practically possible to invest the money of the society every month as soon

as received, then the value of b given by equation (2) would cover the repayment of the loan P with interest, and there would be a yearly gain, in the receipts, represented by $(a - b)$.

41.—To determine the excess of Accumulation obtained at the end of n years, by the receipt and immediate reinvestment of the monthly subscriptions at *monthly* interest after the rate of i_1 per pound; when the Investers are only promised the accumulation of their subscriptions, as if paid yearly and invested at compound yearly interest i per pound.

Let A = the amount at i_1 per pound monthly interest.

B = the amount at i per pound yearly interest.

$\frac{a}{12}$ = the monthly subscription.

$$\therefore \text{A} = \frac{a}{12}\left\{\frac{\left(1+\frac{i_1}{12}\right)^{12n}-1}{\frac{i_1}{12}}\right\}$$

$$\text{B} = a\left\{\frac{(1+i)^n-1}{i}\right\}$$

$$\text{A} - \text{B} = a\left\{\frac{\left(1+\frac{i_1}{12}\right)^{12n}-1}{i_1} - \frac{(1+i)^n-1}{i}\right\} \ldots\ldots (1).$$

42.—Note to page 48. On the adjustment of the amount of contribution per share to be paid by Borrowers in a terminating Building Society, as their quota towards making up a deficiency in the amount required at the epoch of its expected termination, in order to enable the Investers to receive their shares in full.

Let D = the deficiency,

m = number of Investers' (or unadvanced) shares,

f = total monthly income from subscriptions on the same.

g = total monthly income from Borrowers' repayments, where the payments on each share are not necessarily the same:—

Then:—1st. If the society's existence, and consequently the members' subscriptions, were continued for the purpose of making up D; as no new Borrowers would be found, the money received must remain idle or be invested in the public funds.

Let x = number of extra months' subscription,

i = the *average* monthly interest obtained per pound.

$$\therefore \mathrm{D} = (f+g).\left\{\frac{(1+i)^x - 1}{i}\right\}$$

$$\therefore (1+i)^x = 1 + \frac{\mathrm{D}\,i}{f+g}$$

$$\therefore x = \frac{\mathrm{Log}\left(1 + \frac{\mathrm{D}\,i}{f+g}\right)}{\mathrm{Log}\,(1+i)} \quad \ldots\ldots\ldots\ldots\ldots\ldots (1).$$

2dly. If, instead of continuing the society for the additional months, the holders of unadvanced shares consent to waive their right to receive them in full, and be willing to put up with some loss, in order to receive whatever money they can at once; the Borrowers must contribute their share of the *present value* of D, or of

$$\mathrm{D}\,(1+i)^{-x} \quad \text{or} \quad \frac{\mathrm{D}}{1 + \frac{\mathrm{D}\,i}{f+g}}$$

Hence the unit of contribution from all members, both Investers and Borrowers, will be

$$\frac{1}{f+g} \cdot \left(\frac{\mathrm{D}}{1 + \frac{\mathrm{D}\,i}{f+g}}\right) \quad \text{or} \quad \frac{\mathrm{D}}{(f+g) + \mathrm{D}\,i}$$

And the Borrowers must contribute g units, or a sum

$$= \frac{\mathrm{D}\,g}{(f+g) + \mathrm{D}.i} \quad \ldots\ldots\ldots\ldots\ldots\ldots (2).$$

of which each Borrower contributes respectively in proportion to his units of monthly repayment to the society on his loan.

The remaining loss on each Invester's share will be

$$\frac{\mathrm{D}}{m} \cdot \left\{1 - \frac{g}{(f+g) + \mathrm{D}\,i} \cdot\right\} \quad \ldots\ldots\ldots\ldots\ldots\ldots (3).$$

TABLES.

TABLE I.

Shewing the *Decimal* corresponding to every Penny in the *Pound.*

s.	*d.*	Decimal.	*s.*	*d.*	Decimal.	*s.*	*d.*	Decimal.	*s.*	*d.*	Decimal.	*s.*	*d.*	Decimal.
0	1	.004	4	1	.204	8	1	.404	12	1	.604	16	1	.804
0	2	.008	4	2	.208	8	2	.408	12	2	.608	16	2	.808
0	3	.012	4	3	.212	8	3	.412	12	3	.612	16	3	.812
0	4	.017	4	4	.217	8	4	.417	12	4	.617	16	4	.817
0	5	.021	4	5	.221	8	5	.421	12	5	.621	16	5	.821
0	6	.025	4	6	*.225	8	6	.425	12	6	.625	16	6	.825
0	7	.029	4	7	.229	8	7	.429	12	7	.629	16	7	.829
0	8	.033	4	8	.233	8	8	.433	12	8	.633	16	8	.833
0	9	.037	4	9	.237	8	9	.437	12	9	.637	16	9	.837
0	10	.042	4	10	.242	8	10	.442	12	10	.642	16	10	.842
0	11	.044	4	11	.246	8	11	.446	12	11	.646	16	11	.846
1	0	.050	5	0	.250	9	0	.450	13	0	.650	17	0	.850
1	1	.054	5	1	.254	9	1	.454	13	1	*.654	17	1	*.854
1	2	.058	5	2	.258	9	2	.458	13	2	.658	17	2	.858
1	3	.062	5	3	.262	9	3	.462	13	3	.662	17	3	.862
1	4	.067	5	4	.267	9	4	.467	13	4	.667	17	4	.867
1	5	.071	5	5	.271	9	5	.471	13	5	.671	17	5	.871
1	6	*.075	5	6	.275	9	6	.475	13	6	.675	17	6	.875
1	7	.079	5	7	.279	9	7	.479	13	7	.679	17	7	.879
1	8	.083	5	8	.283	9	8	.483	13	8	.683	17	8	.883
1	9	.087	5	9	.287	9	9	.487	13	9	.687	17	9	.887
1	10	.092	5	10	.292	9	10	.492	13	10	.692	17	10	.892
1	11	.096	5	11	.296	9	11	.496	13	11	.696	17	11	.896
2	0	.100	6	0	.300	10	0	.500	14	0	.700	18	0	.900
2	1	.104	6	1	.304	10	1	.504	14	1	.704	18	1	.904
2	2	.108	6	2	.308	10	2	.508	14	2	.708	18	2	.908
2	3	.112	6	3	.312	10	3	.512	14	3	.712	18	3	.912
2	4	.117	6	4	.317	10	4	.517	14	4	.717	18	4	.917
2	5	.121	6	5	.321	10	5	.521	14	5	.721	18	5	.921
2	6	.125	6	6	.325	10	6	*.525	14	6	.725	18	6	.925
2	7	.129	6	7	.329	10	7	.529	14	7	.729	18	7	.929
2	8	.133	6	8	.333	10	8	.533	14	8	.733	18	8	.933
2	9	.137	6	9	.337	10	9	.537	14	9	.737	18	9	.937
2	10	.142	6	10	.342	10	10	.542	14	10	.742	18	10	.942
2	11	.146	6	11	.346	10	11	.546	14	11	.746	18	11	.946
3	0	.150	7	0	.350	11	0	.550	15	0	.750	19	0	.950
3	1	.154	7	1	.354	11	1	.554	15	1	*.754	19	1	*.954
3	2	.158	7	2	.358	11	2	.558	15	2	.758	19	2	.958
3	3	.162	7	3	.362	11	3	.562	15	3	.762	19	3	.962
3	4	.167	7	4	.367	11	4	.567	15	4	.767	19	4	.967
3	5	.171	7	5	.371	11	5	.571	15	5	.771	19	5	.971
3	6	.175	7	6	*.375	11	6	.575	15	6	.775	19	6	.975
3	7	.179	7	7	.379	11	7	.579	15	7	.779	19	7	.979
3	8	.183	7	8	.383	11	8	.583	15	8	.783	19	8	.983
3	9	.187	7	9	.387	11	9	.587	15	9	.787	19	9	.987
3	10	.192	7	10	.392	11	10	.592	15	10	.792	19	10	.992
3	11	.196	7	11	.396	11	11	.596	15	11	.796	19	11	.996
4	0	.200	8	0	.400	12	0	.600	16	0	.800	20	0	1.000

* *Example.*—The value of the Decimal .075, is 1*s.* 6*d.*—.225, is 4*s.* 6*d.*—.375, is 7*s.* 6*d.*—.525, is 10*s.* 6*d.*—.654, is 13*s.* 1*d.*—.754, is 15*s.* 1*d.*—.854, is 17*s.* 1*d.*—.954, is 19*s.* 1*d.*

TABLE II.

(A.) *Shewing the sum per Pound to which a Rate of Interest per cent. is equivalent.*

			s.	d.	
2	per cent. interest is	equal to nearly	0	5	in the pound.
$2\frac{1}{2}$	,,	exactly	0	6	,,
3	,,	nearly	0	7	,,
$3\frac{1}{2}$	,,	,,	0	$8\frac{1}{2}$	,,
4	,,	,,	0	$9\frac{3}{4}$	,,
$4\frac{1}{2}$	,,	,,	0	11	,,
5	,,	exactly	1	0	,,
$5\frac{1}{2}$	,,	nearly	1	$1\frac{1}{4}$	,,
6	,,	,,	1	$2\frac{1}{2}$	,,
7	,,	,,	1	5	,,
8	,,	,,	1	$7\frac{1}{4}$	,,
9	,,	,,	1	$9\frac{3}{4}$	,,
10	,,	exactly	2	0	,,

(B.) *To calculate the Interest for One Year on any sum.*

If the rate be 2 per cent.	multiply the sum	by .02 or $\frac{1}{50}$	and the product is the	interest required.
If $2\frac{1}{2}$,,	,,	by .025 or $\frac{1}{40}$	,,	,,
If 3 ,,	,,	by .03 or $\frac{3}{100}$	,,	,,
If $3\frac{1}{2}$,,	,,	by .035 or $\frac{7}{200}$	,,	,,
If 4 ,,	,,	by .04 or $\frac{1}{25}$	,,	,,
If $4\frac{1}{2}$,,	,,	by .045 or $\frac{9}{200}$	,,	,,
If 5 ,,	,,	by .05 or $\frac{1}{20}$	,,	,,
If 6 ,,	,,	by .06 or $\frac{3}{50}$	,,	,,
If 7 ,,	,,	by .07 or $\frac{7}{100}$	,,	,,
If 8 ,,	,,	by .08 or $\frac{2}{25}$	,,	,,
If 9 ,,	,,	by .09 or $\frac{9}{100}$	,,	,,
If 10 ,,	,,	by .1 or $\frac{1}{10}$	,,	,,

Remark.—To perform the above, it will be remembered that to multiply a quantity by a fraction it must be first multiplied by the numerator, and then the result divided by the denominator of the fraction. The division by 100 can be effected by dividing twice by 10. Similarly the other divisors can be separated, and the quotient obtained by successive divisions.

Example.—To find the interest for one year, at $3\frac{1}{2}$ per cent., on £19. 12*s.* 8*d.*

	£19	12	8
			7
2)137	8	8	
10)68	14	4	
10)6	17	$5\frac{2}{10}$	
Or the Interest required is	13	$8\frac{92}{100}$	

13*s.* 9*d.* nearly.

TABLE III.

Shewing the Amount to which £1 Principal will increase at various Rates of Compound yearly *Interest.* (*See Table VI.*)

At the end of Years.	3 per cent.	3¼ per cent.	3½ per cent.	3¾ per cent.	4 per cent.	4¼ per cent.	4½ per cent.	5 per cent.	6 per cent.	7 per cent.	8 per cent.
1	1.0300	1.0325	1.0350	1.0375	1.0400	1.0425	1.0450	1.0500	1.0600	1.0700	1.0800
2	1.0609	1.0660	1.0712	1.0764	1.0816	1.0868	1.0920	1.1025	1.1236	1.1449	1.1664
3	1.0927	1.1007	1.1087	1.1167	1.1248	1.1329	1.1411	1.1576	1.1910	1.2250	1.2597
4	1.1255	1.1364	1.1475	1.1586	1.1698	1.1811	1.1925	1.2155	1.2624	1.3107	1.3604
5	1.1592	1.1734	1.1876	1.2021	1.2166	1.2313	1.2461	1.2762	1.3382	1.4025	1.4693
6	1.1940	1.2115	1.2292	1.2471	1.2653	1.2836	1.3022	1.3400	1.4185	1.5007	1.5868
7	1.2298	1.2509	1.2722	1.2939	1.3159	1.3382	1.3608	1.4071	1.5036	1.6057	1.7138
8	1.2667	1.2915	1.3168	1.3424	1.3685	1.3951	1.4221	1.4774	1.5938	1.7181	1.8509
9	1.3047	1.3335	1.3628	1.3928	1.4233	1.4544	1.4860	1.5513	1.6894	1.8384	1.9990
10	1.3439	1.3768	1.4105	1.4450	1.4802	1.5162	1.5529	1.6288	1.7908	1.9671	2.1589
11	1.3842	1.4216	1.4599	1.4992	1.5394	1.5806	1.6228	1.7103	1.8982	2.1048	2.3316
12	1.4257	1.4678	1.5110	1.5554	1.6010	1.6478	1.6958	1.7958	2.0121	2.2521	2.5181
13	1.4685	1.5155	1.5639	1.6137	1.6650	1.7178	1.7721	1.8856	2.1329	2.4098	2.7196
14	1.5125	1.5648	1.6186	1.6743	1.7316	1.7908	1.8519	1.9799	2.2609	2.5785	2.9371
15	1.5579	1.6156	1.6753	1.7370	1.8009	1.8669	1.9352	2.0789	2.3965	2.7590	3.1721

TABLE IV.

Shewing the Rates of Interest payable only once *a year, which are equivalent to* nominal *annual Rates of Interest actually paid at frequent intervals in each year.*

Nominal annual rate per cent.	Real yearly interest, to which the nominal rates are equivalent when paid :—					
	Yearly.	Half-yearly.	Quarterly.	Monthly.	Momently.	
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	
3 per cent.	3 0 0	3 0 $5\frac{1}{2}$	3 0 $8\frac{1}{4}$	3 0 10	3 0 11	
4 per cent.	4 0 0	4 0 $9\frac{3}{4}$	4 1 $2\frac{1}{2}$	4 1 6	4 1 $7\frac{3}{4}$	
5 per cent.	5 0 0	*5 1 3	5 1 $10\frac{3}{4}$	5 2 4	5 2 $6\frac{1}{2}$	
6 per cent.	6 0 0	6 1 $9\frac{3}{4}$	6 2 $8\frac{3}{4}$	6 3 4	6 3 $8\frac{1}{4}$	
7 per cent.	7 0 0	7 2 $5\frac{1}{2}$	7 3 $8\frac{3}{4}$	7 4 7	7 5 $0\frac{1}{4}$	
8 per cent.	8 0 0	8 3 $2\frac{1}{2}$	8 4 $10\frac{1}{2}$	8 6 0	8 6 7	

* *Example.*—If a person receives interest half-yearly, after the *nominal* annual rate of 5 per cent., the actual interest derived by him by one year's investment is £5. 1*s.* 3*d.*

TABLE V.

Shewing the nominal annual Rates of Interest paid momently, *which are equivalent to rates paid at the* end *of each year.*

Yearly rate.	Corresponding momentaneous rate.		Yearly rate.	Corresponding momentaneous rate.	
		£. s. d.			£. s. d.
2 per cent.	£1.9802	or 1 19 $7\frac{1}{2}$	7 per cent.	£6.7658	or 6 15 4
3 „	2.9558	2 19 $1\frac{1}{2}$	8 „	7.6791	7 13 $11\frac{1}{4}$
4 „	3.9220	3 18 $5\frac{1}{2}$	9 „	8.6177	8 12 $4\frac{1}{4}$
5 „	4.8790	*4 17 7	10 „	9.5310	9 10 $7\frac{1}{2}$
6 „	5.8268	5 16 $6\frac{1}{2}$			

* *Example.*—The amount to which a sum of money will accumulate in any number of years at *yearly* interest 5 per cent. is the same as the amount to which it would accumulate at *momentaneous* interest, after the nominal annual rate of £4. 17*s.* 7*d.* per cent.

TABLE VI.

Shewing the Amount to which £1 will increase at Compound Interest, according as it is paid yearly, half-yearly, quarterly, or momently.

Nominal rate of Interest.	Payable.	The Amount of £1 in			
		1 Year.	5 Years.	25 Years.	50 Years.
3 per cent.	yearly	1.03000	1.15927	2.09378	4.38391
	half-yearly	1.03022	1.16054	2.10524	4.43204
	quarterly	1.03034	1.16119	2.11108	4.45667
	momently	1.03045	1.16183	2.11700	4.48169
4 per cent.	yearly	1.04000	1.21665	2.66584	7.10668
	half-yearly	1.04040	1.21899	2.69159	7.24465
	quarterly	1.04060	1.22019	2.70481	7.31602
	momently	1.04081	1.22140	2.71828	7.38906
5 per cent.	yearly	1.05000	1.27628	3.38634	11.46740
	half-yearly	1.05062	1.28008	3.43711	11.81372
	quarterly	1.05095	1.28204	3.46340	11.99517
	momently	1.05127	1.28402	3.49034	12.18249
6 per cent.	yearly	1.06000	1.33823	4.29187	18.42015
	half-yearly	1.06090	1.34392	4.38391	19.21863
	quarterly	1.06136	1.34685	4.43204	19.64303
	momently	1.06184	1.34986	4.48169	20.08553
7 per cent.	yearly	1.07000	1.40255	5.42743	29.45703
	half-yearly	1.07122	1.41060	5.58493	31.19141
	quarterly	1.07186	1.41478	5.66816	32.12799
	momently	1.07251	1.41907	5.75460	33.11545
8 per cent.	yearly	1.08000	1.46933	6.84847	46.90161
	half-yearly	1.08160	1.48024	7.10668	50.50495
	quarterly	1.08243	1.48595	7.24465	52.48490
	momently	1.08329	1.49182	7.38906	54.59815

TABLE VII.

Time in which Money will double itself at Simple or Compound yearly Interest. (*See the Appendix.*)

Rate Per cent.		At Simple Interest.	At Compound Interest.
		Years.	Years. Years. Days.
2	£1 or any other sum will double itself in	50.0000	35.00278878 = 35 2
2½		40.0000	28.07103453 = 28 26
3		33.3333	23.44977225 = 23 165
3½		28.5714	20.14879168 = 20 55
4		25.0000	17.67298769 = 17 246
4½		22.2222	15.74730184 = 15 272
5		20.0000	14.20669908 = 14 76
6		16.6666	11.89566105 = 11 327
7		14.2857	10.24476835 = 10 90
8		12.5000	9.00646834 = 9 3
9		11.1111	8.04323173 = 8 16
10		10.0000	7.27254090 = 7 100

TABLE VIII.

Shewing the present Value of £1 payable at the end of any number of Years, at various Rates of Interest.

This Table will serve to determine the *present value* of shares in a Building Society, or the sum which must be given at once to obtain a *paid up* share, which is to be received at the end of a specified number of years.

Years.	3 per cent.	3¼ per cent.	3½ per cent.	3¾ per cent.	4 per cent.	4¼ per cent.	4½ per cent.	4¾ per cent.	5 per cent.	6 per cent.	7 per cent.	8 per cent.
1	.9708	.9685	.9661	.9638	.9615	.9592	.9569	.9546	.9523	.9433	.9345	.9259
2	.9425	.9380	.9335	.9290	.9245	.9201	.9157	.9113	.9070	.8899	.8734	.8573
3	.9151	.9085	.9019	.8954	.8889	.8826	.8762	.8700	.8638	.8396	.8162	.7938
4	.8884	.8799	.8714	.8630	.8548	.8466	.8385	.8305	.8227	.7920	.7628	.7350
5	.8626	.8522	.8419	.8318	.8219	.8121	.8024	.7929	.7835	.7472	.7129	.6805
6	.8374	.8253	.8135	.8018	.7903	.7790	.7678	.7569	.7462	.7049	.6663	.6301
7	.8130	.7994	.7859	.7728	.7599	.7472	.7348	.7226	.7106	.6650	.6227	.5834
8	.7894	.7742	.7594	.7448	.7306	.7167	.7031	.6898	.6768	.6274	.5820	.5402
9	.7664	.7498	.7337	.7179	.7025	.6875	.6729	.6585	.6446	.5918	.5439	.5002
10	.7440	.7262	.7089	.6920	.6755	.6595	.6439	.6287	*.6139	.5583	.5083	.4631
11	.7224	.7034	.6849	.6670	.6495	.6326	.6161	.6002	.5846	.5267	.4750	.4288
12	.7013	.6812	.6617	.6428	.6245	.6068	.5896	.5729	.5568	.4969	.4440	.3971
13	.6809	.6598	.6394	.6196	.6005	.5821	.5642	.5470	.5303	.4688	.4149	.3676
14	.6611	.6390	.6177	.5972	.5774	.5583	.5399	.5222	.5050	.4423	.3878	.3404
15	.6418	.6189	.5968	.5756	.5552	.5356	.5167	.4985	.4810	.4172	.3624	.3152

* *Example.*—If a member of a Building Society desire to purchase by a single payment a share whose amount is £100, to be received at the end of 10 years, and the rate of interest be 5 per cent, he must pay £61.39 or £61. 3*s*. 11*d*. for the same.

TABLE IX.

Shewing the Amount to which an Annuity of £1, paid at the end *of each year, will accumulate at Compound Interest.*

This Table will serve to determine the yearly subscription requisite to purchase an investing share in a Building Society.

Years.	3 per cent.	3¼ per cent.	3½ per cent.	3¾ per cent.	4 per cent.	4½ per cent.	5 per cent.	6 per cent.	7 per cent.	8 per cent.	9 per cent.	10 per cent.
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	2.0300	2.0325	2.0350	2.0375	2.0400	2.0450	2.0500	2.0600	2.0700	2.0800	2.0900	2.1000
3	3.0909	3.0985	3.1062	3.1139	3.1216	3.1370	3.1525	3.1836	3.2149	3.2464	3.2781	3.3100
4	4.1836	4.1992	4.2149	4.2306	4.2464	4.2781	4.3101	4.3746	4.4399	4.5061	4.5731	4.6410
5	5.3091	5.3357	5.3624	5.3893	5.4163	5.4707	5.5256	5.6370	5.7507	5.8666	5.9847	6.1051
6	6.4684	6.5091	6.5501	6.5914	6.6329	6.7168	6.8019	6.9753	7.1532	7.3359	7.5233	7.7156
7	7.6624	7.7206	7.7794	7.8386	7.8982	8.0191	8.1420	8.3938	8.6540	8.9228	9.2004	9.4871
8	8.8923	8.9718	9.0516	9.1325	9.2142	9.3800	9.5491	9.8974	10.2598	10.6366	11.0284	11.4358
9	10.1591	10.2631	10.3684	10.4750	10.5827	10.8021	11.0265	11.4913	11.9779	12.4875	13.0210	13.5794
10	11.4638	11.5967	11.7313	11.8678	12.0061	12.2882	12.5778	13.1807	13.8164	14.4865	15.1929	15.9374
11	12.8077	12.9736	13.1419	13.3128	13.4863	13.8411	*14.2067	14.9716	15.7835	16.6454	17.5602	18.5311
12	14.1920	14.3952	14.6019	14.8121	15.0258	15.4640	15.9171	16.8699	17.8884	18.9771	20.1407	21.3842
13	15.6177	15.8631	16.1130	16.3675	16.6268	17.1599	17.7129	18.8821	20.1406	21.4952	22.9533	24.5227
14	17.0863	17.3786	17.6769	17.9813	18.2919	18.9321	19.5986	21.0150	22.5504	24.2149	26.0191	27.9749
15	18.5989	18.9434	19.2956	19.6556	20.0235	20.7840	21.5785	23.2759	25.1290	27.1521	29.3609	31.7724

Note.—The above Table will also serve to determine the amount of an annuity paid at the *beginning* of each year.

For the amount of an annuity for n years paid at the *beginning* of each year $\Big\}$ $=$ $\Big\{$ the amount of an annuity for $(n+1)$ years from above table $-$ 1.

* *Example.*—The amount of an Annuity of £1 at 5 per cent. for 10 years paid at the beginning of each year = £14.2067 − £1.
= £13.2067.

TABLE X.

Shewing the present Value of an Annuity of £1, *paid at the* end *of each Year.*

Years.	3 per cent.	3¼ per cent.	3½ per cent.	3¾ per cent.	4 per cent.	4½ per cent.	5 per cent.	6 per cent.	7 per cent.	8 per cent.
1	.9708	.9685	.9661	.9638	.9615	.9569	.9523	.9433	.9345	.9259
2	1.9134	1.9065	1.8996	1.8928	1.8860	1.8726	1.8594	1.8333	1.8080	1.7832
3	2.8286	2.8150	2.8016	2.7883	2.7750	2.7489	2.7232	2.6730	2.6243	2.5770
4	3.7170	3.6949	3.6730	3.6513	3.6298	3.5875	3.5459	3.4651	3.3872	3.3121
5	4.5797	4.5471	4.5150	4.4832	4.4518	4.3899	4.3294	4.2123	4.1001	3.9927
6	5.4171	5.3725	5.3285	5.2850	5.2421	5.1578	5.0756	4.9173	4.7665	4.6228
7	6.2302	6.1720	6.1145	6.0578	6.0020	5.8927	5.7863	5.5823	5.3892	5.2063
8	7.0196	6.9462	6.8739	6.8027	6.7327	6.5958	6.4632	6.2097	5.9712	5.7466
9	7.7861	7.6961	7.6076	7.5207	7.4353	7.2687	*7.1078	6.8016	6.5152	6.2468
10	8.5302	8.4223	8.3166	8.2127	8.1108	7.9127	7.7217	7.3600	7.0235	6.7100
11	9.2526	9.1258	9.0015	8.8797	8.7604	8.5289	8.3064	7.8868	7.4986	7.1389
12	9.9540	9.8070	9.6633	9.5226	9.3850	9.1185	8.8632	8.3838	7.9426	7.5360
13	10.6349	10.4669	10.3027	10.1423	9.9856	9.6828	9.3935	8.8526	8.3576	7.9037
14	11.2960	11.1059	10.9205	10.7396	10.5631	10.2228	9.8989	9.2949	8.7454	8.2442
15	11.9379	11.7248	11.5174	11.3152	11.1183	10.7395	10.3796	9.7122	9.1079	8.5594

NOTE.—The above Table will serve to determine the present value of an Annuity paid at the *beginning* of each year,

For, the present value of an annuity of £1, paid at the beginning of each year, for n years $\Big\} = \Big\{$ the present value of an annuity for $(n-1)$ years + 1.

* *Example.*—The present value at 5 per cent. of £1 a year paid at the beginning of each year for ten years = £7.1078 + £1.
= £8.1078

TABLE XI.

Shewing the Annuity which £1 will purchase for a given number of Years.

This Table will serve to determine the Annuity to be paid by a borrowing member of a Building Society in repayment of a given advance.

Years.	3 per cent.	4 per cent.	5 per cent.	6 per cent.	7 per cent	8 per cent.	9 per cent.	10 per cent.
1	1.0300	1.0400	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000
2	.5226	.5302	.5378	.5454	.5531	.5608	.5685	.5762
3	.3535	.3603	.3672	.3741	.3811	.3880	.3951	.4021
4	.2690	.2755	.2820	.2886	.2952	.3019	.3087	.3155
5	.2184	.2246	.2310	.2374	.2439	.2505	.2571	.2638
6	.1846	.1908	.1970	.2034	.2098	.2163	.2229	.2296
7	.1605	.1666	.1728	.1791	.1856	.1921	.1987	.2054
8	.1425	.1485	.1547	.1610	.1675	.1740	.1807	.1874
9	.1284	.1345	.1407	.1470	.1535	.1601	.1668	.1736
10	.1172	.1233	.1295	.1359	*.1424	.1490	.1558	.1627
11	.1081	.1141	.1204	.1268	.1334	.1401	.1469	.1540
12	.1005	.1066	.1128	.1193	.1259	.1327	.1397	.1468
13	.0940	.1001	.1065	.1130	.1197	.1265	.1336	.1408
14	.0885	.0947	.1010	.1076	.1143	.1213	.1284	.1358
15	.0837	.0899	.0963	.1030	.1098	.1168	.1241	.1315

* *Example.*—If a member borrow £100 for 10 years to be repaid by equal instalments, including principal and interest, in that time, he must pay £14.24 or nearly £14. 5*s.* a year in repayment for the same.

TABLE XII.

Extract from the Tables of Hyperbolic Logarithms.

Number.	Logarithm.	Number.	Logarithm.
1.01	.0099503	2.00	.6931472
1.02	.0198026	3.00	1.0986123
1.03	.0295588	4.00	1.3862943
1.04	.0392207	5.00	1.6094379
1.05	.0487902	6.00	1.7917594
1.06	.0582689	7.00	1.9459101
1.07	.0676586	8.00	2.0794415
1.08	.0769610	9.00	2.1972245
1.09	.0861777	10.00	2.3025851
1.10	.0953102		

Rem.—Hyperbolic Logarithms can be deduced from the ordinary tables of Logarithms to the base 10, by multiplying the latter by Log 10 or 2.3025851.
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SOLICITOR.

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ACTUARY AND SECRETARY.

ARTHUR SCRATCHLEY, Esq., M.A., F.R.A.S.

THIS Society grants every variety of Policy of Assurance on any number of lives, and to any amount, for which the payments can be made by such arrangements as may be most convenient.

NEW PRINCIPLE IN LIFE ASSURANCE.

AS IT MAY HAPPEN *that a party may from unforeseen circumstances be* **UNABLE TO PAY A PREMIUM** *when it becomes due, by making application to the Directors he will be allowed* once *(or* oftener *should the value of the Policy at the time of the application permit it,) to have the privilege of* **OMITTING THE PAYMENT** *of that premium, (provided he has already paid three whole Premiums at least on the Policy, and it be one for the* whole life *of*

the Assured.) And his Policy will be endorsed to the effect that it continues in force, as if the premium omitted were paid, being however charged with a debt equivalent to that premium and its interest at 5l. per cent., which will be deducted from the amount of the Policy when the Assured dies. The Policy holder shall, however, have it in his power to free his Policy from the debt at any time, by paying the amount due. The great advantages of this feature must at once be seen, since it removes the usual objections to the ordinary system of Life Assurance, by which an Assurer often loses all the benefit he sought in paying regularly the premiums for many years on a Policy, because from temporary difficulties he is unable to pay a premium when it becomes due, and the Policy consequently lapses to the Office.

EXAMPLE.—A person aged 26, assures his Life for £1,500 on Table 1, at an annual premium of £30. At the beginning of the fifth year of the existence of his Policy, he finds he is without the money to pay the fifth premium. He avails himself of the privilege allowed by this Society, and obtains the endorsement on his Policy as stated before. The year passes away, and at the beginning of the sixth year he is alive, and still not able to pay up the omitted premium. He pays therefore the sixth premium and the successive ones after that, and leaves the premium omitted as a debt against his Policy; paying however annually thirty shillings as Interest upon it.

The particular attention of LEASEHOLDERS is also specially invited to the very secure and advantageous manner, by which they can in this Society effect Assurances, which will provide for the *Renewal Fines* in their Leases, whether such Leases be for *terms certain,* or contingent on the existence of *one, two,* or *three lives.*

In Leases depending on Lives, in general, on the failure of a life, the Lease can be renewed by putting in another, for which privilege a *Fine* is demanded. From the uncertainty of human existence, the Lessee is exposed to be called upon for such payment, perhaps before he is prepared to meet it, (the death having occurred before he has provided the amount of the Fine); this circumstance has frequently produced serious loss to Lessees, and in general there is no safer way to provide the money for a *Fine,* than by a Policy of Assurance, effected for the required amount to be received at the death of the *first* or *last* of the lives, according as the case may be.

EXAMPLE.—The holder of a lease would have to pay a fine of £100 to renew it at the death of the *first* of two lives aged 15 and 35. He provides for its payment by an annual premium of £3. 11*s.* 11*d.*, so that should one of the lives in the lease die even the day after the first premium has been paid, he will receive from the WESTERN ASSURANCE SOCIETY £100. See Table 4, in the Prospectus.

The preceding has reference only to the Renewal of Leases, but in cases, where the Lessee purposes to allow his Lease to *run out,* and is, nevertheless, desirous of having, at the death of the *last* of the lives, a sum of money, which shall be of the same value to him as his Lease was; all that he has to do is to effect an Assurance, to be received, when all the lives in the Lease are dead.

If the lease be on *three* lives the Annual Premium per cent. would be very small.

EXAMPLE.—£100 can be assured payable at the death of the *last* of *three* lives, aged 31, 37, and 61, respectively, by the annual payment of £1. 8*s.* In younger lives the premiums would be even less.

Any information required on the important subject of the Renewal of Leases can be obtained at the Office, 3, Parliament Street, from the *Actuary.*

LONDON & METROPOLITAN COUNTIES

BENEFIT

BUILDING & INVESTMENT SOCIETY,

ESTABLISHED (SEPTEMBER, 1848,) ON PERMANENT PRINCIPLES, pursuant to Act of Parliament, 6 & 7 William IV. c. 32.

OFFICES, 8, CHARING CROSS, LONDON.

The Objects of this Society are Three-fold, and may be thus Shortly Stated:

1*st*. To Advance Money to its members, for periods of 5, 7, 10, 12, or 14 years, (repayable by Monthly or Quarterly Instalments, *slightly exceeding their ordinary Rents*) to enable them to purchase or build Houses for their own occupation or for the purpose of letting.

2*nd*. To enable Members engaged in AGRICULTURAL pursuits in any part of England to provide for the FINES payable on the RENEWAL OF THEIR LEASES, at the end of 7, 14, 21, or any other number of years, and obtain money to purchase Land, and to build Dwelling Houses or Cottages, &c. thereon.

3*rd*. To enable those members who do not wish to purchase or build Houses, to obtain a higher rate of Interest for their Money (*viz*. £5 per cent, per annum, and a share of the Profits), than is paid by an ordinary Savings' Bank (£2 18*s*. 4*d*.) on a security *equally good and available*.

Experience in the working of Building Societies has removed many of the SERIOUS OBJECTIONS incidental to the EARLIER SOCIETIES which were established on the principle of a limited duration only. The chief of these objections were :—

1*st*. The uncertain amount of the liabilities of Members.

2*nd*. The ruinous and unjust system of BIDDING for shares.

3*rd*. The increased ENTRANCE FEES and ARREAR SUBSCRIPTIONS entailed upon persons joining a Society any time after its commencement.

4*th*. The difficulties attending the redemption of mortgaged property often creating a great depreciation in its value.

These OBJECTIONS are removed by the constitution of the **LONDON AND METROPOLITAN COUNTIES' BUILDING AND INVESTMENT SOCIETY.** The chief features of which are :—

1*st*. The Society being a PERMANENT one, Members may be admitted at any time without being required to pay any arrear subscriptions, or increased Entrance Fees.

2*nd*. The SUBSCRIPTIONS on investing shares of £100 each, are 13*s*. per month for ten years only, at the end of which period the shares of each Member are paid out with a BONUS, in addition to *Compound* Interest at the rate of £5 per cent per annum. Shares of £50 and £25 each are also issued.

3*rd*. ADVANCES are made to Members to THE FULL AMOUNT OF THEIR SHARES, (excepting only a Commission, not exceeding £5 per cent) repayable by fixed Monthly or Quarterly instalments during 5, 7, 10, 12, or 14 years, to suit the respective circumstances of the Members.

4*th*. MORTGAGES to the Society may be redeemed at any time, on payment of the present value of the future subscription for the unexpired period of the Loan term.

SUBSCRIPTION MEETINGS are held at the offices, No. 8, Charing-cross, on the FIRST and THIRD MONDAY in the month, from seven to nine o'clock in the evening.

Shares, detailed Prospectuses, and Rules, (the latter 6*d*. each, by post 10*d*.) may be obtained on application to Mr. W. SWINEY, (Manager) at the offices, 8, Charing-cross, or to Mr. H. E. MARSH, Auctioneer, 27, Bucklersbury, City, or from any of the Society's Agents in the Country.